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ABSTRACT

The interim report describes the progress of the first year of a three-year exemplary project in career education beginning in 1973 and conducted by the Admiral Peary Area Vocational Technical School in Ebensburg, Pennsylvania. The purpose of the project was to develop a "reality bound" total K-14 educational continuum. The model consists of an elementary component, a middle school component, and a secondary school component. Other support activities are career guidance, postsecondary career education, community involvement, and test instrument development. The report presents the objectives and accomplishments of the program, a description of the project design, and a third party evaluation report, along with recommendations and conclusions. (NJ)

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Interim Report

Project No. V361012
Grant No. OEG-0-73-5272

LANGUAGE EXPERIENCE BASED AWARENESS
+
HANDS ON EXPLORATION
+
COMPETENCY BASED PREPARATION
=
A SCHOOL BASED TOTAL CAREER EDUCATION MODEL

Vol. 1

Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

The project reported herein was performed pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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SUMMARY

The first year of a three year exemplary project in Career Education, funded under part D of public law 90-576, was conducted by the Admiral Peary AVTS, Ebensburg, Pennsylvania, during the period 1 July 1973 to 30 June 1974.

Project objectives are classified as either process or product.

Process Objectives

- To develop a "reality bound" program of Career Awareness for students in the elementary grades that will expose the students to many of the actual materials and equipment utilized in the world of work in general.
- To develop a "reality bound" Career Exploration program for the junior high school or middle school students with actual "hands-on" experience in the exploratory sense in the various occupational clusters, and to make available to students sufficient information and experiences to allow them to chose a general direction in which they wish to pursue an occupation.
- To develop Career Preparation programs in grades 10 thru 14, that integrate both home school and vo-tech curricula to provide job preparation for a variety of occupational areas commensurate with the student's interest and ability.
- To implement a placement procedure program whereby the AVTS and the school district will cooperate with the Bureau of Employment Security, other governmental agencies, business and industrial leaders, and educational leaders in the community to attack the long and short range problems of employment for those seeking it. Work experience and cooperative work study programs will be an integral part of the program. Placement in post secondary programs and higher education will also be included in the this program.
- To develop a total educational continuum, K-14, which offers the opportunities, information, and experiences to students in all grade levels so that they may be made more aware of the various occupations, relationships between occupations, and the important role that chosen careers will play in their personal, social and economic lives; and to provide all students with sufficient information commensurate with their level and

ability for developing and practicing decision making skills about their lives.

Product Objectives

- The students in grades 1 through 9 will demonstrate:
  - (a) Significant improvement in knowledge of the world of work including:
    - Tools/occupation relationships
    - Tools/function relationships
    - Correction of common misconceptions
    - Occupational characteristics and requirements.
  - (b) Significant improvement in the role of personal choice in occupational planning.
  - (c) Significant improvement in perception of work and satisfaction derived from work.
  - (d) Significant improvement in attitude toward school.
  - (e) Significant increase in knowledge of occupational alternatives.
  - (f) Significant increase in knowledge of programs offered by the AVTS and the high school.
  - (g) Significant improvement in the preception of the climate of the AVTS including:
    - Instructors
    - Curriculum
    - Students
    - Facilities.
  - (h) Significant improvement in the basic skills, including, but not limited to:
    - Reading ability
    - Mathematics ability.
- Students in grades 10-12 will demonstrate:
  - (a) Significant improvement in perception of work and satisfaction derived from school related activities.
  - (b) Significant improvement in the perception of the role individual choice plays in occupational planning.
  - (c) Significant improvement in perception of school climate including:
    - Instructors
    - Curriculum
    - Students
    - Facilities.
  - (d) Favorable attitude toward and use of the counseling services, placement services and work experience opportunities provided them.

- Teachers of students in the sending schools will demonstrate:

(a) Significant increase in knowledge of programs and facilities offered by the AVTS and the high school.
(b) Significant improvement in perception of the climate of the AVTS, including teachers, students, curriculum and facilities.
(c) Significant improvement in attitude toward skilled trades and crafts.

Procedures at the elementary and middle school grades (1-5 and 6-8) were similar in nature and centered around group participation in Career Education related activities. Three major student activities were:

- Field trips to various career areas at the Admiral Peary Area Vocational-Technical School (AVTS),
- Field trips into the community, and
- Classroom visits by resource person from the community.

Elementary students attended field trips as intact classrooms whereas middle school students were selected alphabetically for field trip activities.

Teacher oriented activities included a 4 day Career Education workshop and development and/or implementation of Career Education curriculum units during the school year.

Procedures at the secondary level (grades 9-12) involved a more individualized approach with a heavy career guidance component. Ninth grade students were provided the opportunity to spend five half days during a school week "working" with a highly skilled person at a career exploration site. This experience was to occur either at the AVTS or in the community, including the schools in the district.

The strategy to be utilized in grades 10-12 was to accommodate the organizational structure of the high school according to subject area departments and to work with small groups of students interested in and volunteering for a specific Career Education activity. As is the case with most other Career Education projects throughout the country, activities at the secondary level did not progress as far or as rapidly as at the elementary and middle school levels.

Procedures for the guidance and counseling component of project goals overlapped each of the aforementioned three components in that Career Guidance and Counseling is considered to be a curriculum oriented activity that ties together a continuum of educational experiences in grade K through 14.

A fifth area of major activity was a program to develop reliable and valid test instruments to help fill the void that exists for many Career Education product objectives.

Accomplishments at the elementary and middle schools were essentially the same and included the following activities:
- Development and dissemination of a list of Career Education Objectives and Guidelines,
- Development and dissemination of Learning Activities Packets for infusion into regular classroom curriculum,
- Development and implementation of procedures for field trips to the area vocational-technical school,
- Development and implementation of procedures for utilizing resource people in and from the community,
- Establishment of Career Resource Centers (CRC's) in the schools, and
- Preparation of classroom teachers through workshop and in-service activities.

Accomplishments at the secondary level were more individualized than those at the lower grade levels and included the following:
- The ninth grade Career Experience Program was well received and highly rated by students and instructors,
- A Career Militia Day was conducted in cooperation with the USAR to provide students with the opportunity to explore career possibilities in the military, with particular emphasis on the vast number of civilian related jobs available in the military, and
- A Career Education Symposium was conducted in cooperation with the Department of Industrial Relations, St. Francis College, Loretto, Pa. The theme, "Career Education and the World of Work," focused on secondary and post secondary career education.

Students outcomes, as measured by the following instruments:
- Elementary Career Awareness Questionnaire (ECAQ), a locally developed test for grades 1-5,
- Career Maturity Inventory (CMI), a standardized test used in grades 6-12, and
- Career Decision Questionnaire (CDQ), a locally developed test for grades 9-12,

indicate that for the first year of the project, students not participating in Career Education activities did better, in general, than those students participating. In general, all students improved from pre to post test and/or were above national averages, whether or not they were participating in Career Education activities.

Based on data collected and observations made during the first year of the project, it can be concluded that the three process objectives for "reality bound" programs at the elementary, middle school, and to a lesser extent at the high school, have been met. It is too early in the three year project to make definitive statements as to student outcomes particularly in view of the state of the art for testing Career Education product objectives. In general, those students outcomes that were related to first year project activities have been partially or completely met.

Accomplishments in the Career Guidance and Counseling component include the following:

- Development and implementation at the elementary grades of supplemental classroom visits about the worth of the individual person,
- Development and implementation at the middle school level of affective units dealing with interest, ability, and choice in relationship to the career decision process,
- Development and implementation of the 9th grade Career Experience Program,
- Review and selection of materials for Career Resource Centers, and
- Assistance in the testing program.

As part of the planned testing program, the following have been accomplished:

- Approximately 1600 students in grades 1-5 and 9-12 have been tested as part of the development of two locally prepared test instruments,
- Approximately 105 teachers at all grade levels have been tested with a locally developed test,
- Approximately 50 parents and 75 businessmen have been tested with a locally developed test,
- Approximately 105 teachers at all grade levels have been tested with a nationally standardized test,
- Approximately 280 students in grades 6-12 have been tested with a nationally standardized test, and
- The data from the above testing program have been analyzed and the results documented.

The testing instrument development program has been drastically scaled down because of a 46% cut in funding for the second and third years of the project.

The following recommendations are made, as a result of first year project results:

- Curriculum development with a shift in emphasis to Career Education concepts should be systematically continued with small manageable groups of teachers in the form of workshops or released time meetings,
- The appropriate resources should be provided and/or made available to enhance the infusion of Career Education curriculum units into classroom instruction. These resources include CRC's and other learning stations within the school, as well as those available in or from the community,

- Whenever out of classroom activities are utilized, they should be warranted by curriculum content, be well planned, and include both preparation and follow up activities,
- School districts considering the implementation of Career Education should employ the appropriate guidance and counseling personnel,
- Elementary and middle school counselors are necessary to work with faculty and administration in developing the affective component of Career Education for the classroom,
- Career Education staff and school district personnel should continue to work in close cooperation,
- Because the Career Education concept is dealing with a long range problem, any Career Education program should maintain continuity from year to year for a minimum of 3 to 5 years in order for measurable effects to occur,
- A more systematic approach to student participation in Career Education activities should be planned for the second year of the project,
- The Career Experience Program for 9th grade should be expanded to serve all school districts supporting the AVTS,
- A community component of the 9th grade Career Experience Program should be instituted,
- The Career Experience Program for 9th grade should become operational and project staff participation should be minimized,
- Project staff should spend more time with secondary teachers in developing Career Education curriculum approaches during the second year of the project,
- A systematic set of plans and procedures should be developed for incorporating Career Education into post secondary education,
- Parents and other community persons and organizations should become more involved in Career Education, and
- Additional test instrument development is necessary for Career Education product objectives.

CHAPTER I

PROBLEM AREA TOWARD WHICH PROJECT WAS DIRECTED

A. Introduction

A comparison of the 1960 and 1970 U.S. Census figures indicates that among the larger counties in the nation, Cambria County, Pennsylvania was ranked third largest in terms of negative growth with a negative 8% rate. The "net" out migration, according to a population study by the Cambria County Planning Commission,(1) for the county is 14.1%.* With the exception of Clearfield County, Cambria County exceeds its surrounding counties and the State (4.0%) in net migration. The 14.1% figure for the county as a whole masks a more critical problem area in that, when census figures are inspected in the categories male and female for the 18 to 24 and 25 to 34 year age groups, the out migration ranges from 32% to 43%. In other words, approximately one out of every 3 people immediately beyond high school age are, apparently, not only leaving high school but are also leaving the county. Undoubtedly, many of those people leaving the county are members of the labor force frustrated in their attempts to secure employment, either because they are not prepared or trained for the jobs available or because jobs are not available. One reason why jobs may not be available is because a skilled labor force is lacking in the region, thereby giving business and industry no incentive for locating in the area. The lack of a skilled labor force is a significant contributing factor in the depressed economy of Appalachia of which Cambria County is a part.

Taking into account the fact that occupational mobility declines as the age of one seeking employment increases, the above figures for young migrants can be explained in part. The fact that one person looks harder for employment than another person does not necessarily mean that he or she will find a job, for the number of jobs does not correspond to the demand for them.(2) It may be inferred, from inspection of the above out migration figures, that the youth of Cambria County are seeking employment outside of the county.

The unemployment rate for the Johnstown Labor Market Area (of which the Admiral Peary AVTS sending school districts are a part) in 1971 was 6.9%.(3) This figure, combined with the fact that the present net out migration rate for Cambria County is 14.1%, reflects even larger problems regarding employment. It can be assumed that in the absence of this out migration, the unemployment percentage would be considerably higher. For, as was stated previously, a majority of people are leaving either due to the unavailablity of employment or due to a lack of training for the jobs available.

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*Growth Rate = Migration Rate plus Natural Increase (birth - death).

Another factor which should be considered is that there is an amount of disguised unemployment, that is, those at work part time, but with the desire for full time employment. A 12 month average of unemployed and underutilized accounted for 18,652.(4) With the exception of the city of Johnstown, which is a metropolitan area, the rest of Cambria County for the most part is rural Appalachia. A 1972 study sponsored by the Admiral Peary AVTS and conducted by the Industrial Relations Department of St. Francis College, Loretto, Pa., has shown that the job needs, current and projected, in the Cambria County area were not being met by output of the school systems.(5)

Pennsylvania has increased its population by 4.2% from 1960 to 1970. All adjacent states have had greater increases except West Virginia, which had a decrease of 6.2%. For this time period, this decrease can be attributed in part to the decline of the coal mining industry. This problem is also central to the Cambria County situation. The percentage change in employment from 1960 to 1970 in the area of mining was a negative 20.4%. With the recent energy crisis and re-emergence of coal as a significant energy source, a great upsurge in mining and related support industries is projected to continue on into the 1980's. As elsewhere in our largely technological society, the size of this increase will be constrained somewhat because of the increase in new devices which increase productivity and decrease the need for laborers. Future needs will be for men trained in running the new continuous mining machinery systems and the supervisors of these operations. Other projected negative changes in employment are negative 11.1% in Public Utilities, negative 8.2% in Agriculture and negative 3.2% in Manufacturing.(6) Retraining for these people will be imperative. It should be remembered that the longer one remains unemployed, the less likely he is to be considered a prospect by those who interview him.(7)

It can be said that in view of the high unemployment rate, the high out migration rate of young people, and the lack of preparation for jobs available in the

Cambria County area, Cambria County is essentially a microcosm of the employment problems of the nation, with specific emphasis on problems of rural America. One characteristic shared by the rural people of Cambria County and the people of urban areas is poverty. Thus, to a great extent what can be shown to be effective in the schools in terms of preparation for the world of work in Cambria County would probably work in most urban areas with modifications to meet local conditions.

The average education in Cambria County for persons 25 years old and over has risen from 9.1 years completed in 1960 to 11.2 years completed in 1970. This is a 23% increase. The median school years completed by the employed civilian labor force in the United States as of March 1971 was 12.4 years. It is significant to note at this point that although there is a great number of people with a high school education in Cambria County, there is still a high degree of unemployment and out migration.(8)

Studies have shown that for the American Labor Force, those under 35 years of age spend an average of 1.5 years per job. For those over 35 years of age, an average of 8 years is spent per job.(9) Most individuals have little information when job hunting. It is known that high turnover rates in certain occupations, or for certain individuals is due to a lack of information regarding the job in question. Job expectations, wages, benefits, and hours are seldom known by job seekers before seeking or accepting employment. Resignations are abnormally high during the first months of employment which indicate a dissatisfaction on the part of the new employees.(10) In 1971 the proportion of unemployed teenagers in the labor force because of job market entry and reentry was over 12%.

This 12% unemployment rate is a reflection of the dissatisfaction new entrants into the labor market experience. Time is lost changing employment. It can be assumed that teenagers will not lose as much time changing jobs if they have a better idea of what to expect in terms of the employment they choose. They should have a better idea of what they are looking for and how to go about finding it. The 12% figure for entry and reentry could be significantly cut. This figure is out of an overall youth unemployment rate of 16.9%.(11) In 1971 the national average rate of unemployment for 16 to 17 year olds was 18.7%(12) Important here also is the amount of time lost and the frustration of trying to find a more satisfactory field of work.

The Southern Alleghenies Regional Planning Commission, in conjunction with the Appalachia Regional Commission, is tackling the broader social and economic problems at a Chamber of Commerce level by investigating and providing for the road networks as well as attempting to bring industries into the area. The educational institutions, primarily the new area vocational technical schools currently in operation or recently completed, are a part of an overall plan to improve the general economy and quality of life in the six county region* served by the Southern Alleghenies Commission.

The Admiral Peary AVTS has taken the lead in incorporating the Career Education concept in the day to day operations of the school through a flexible modular scheduling model developed at the school by its local research unit.(13-16) The TIMES (Temporally Individualized Modular Education Scheduling) Model is a delivery system for Career Education that educates students to individual occupational goals, while accommodating the different abilities and competencies of the individual student.(17)

Evaluation reports(18,19) by the outside 3rd party evaluator for the first and second years of the project are highly favorable and indicate scores in the affective domain are quite high and that students understand the Career Education concept, as presented in the TIMES Model.

Cambria County is also the site of two state school hospitals, one located in Cresson and the other in Ebensburg. A significant percentage of the state school hospital residents is educationally trainable to hold some form of employment. The combined population of the two schools is 4,200, of which approximately 600 are considered trainable in a public school system. These 600 or so people are currently unemployed and should be trained to the limits of their potential by the schools. The Admiral Peary AVTS has conducted two such programs during the 1972-73 and 73-74 school years.(20) A third year of the program is planned for the 1974-75 school year. During the first year of the program, 50 students were afforded the opportunity to visit the AVTS five days a week, for 2 hours a day for 16 weeks.(21) During the second year of the project, 100 students were afforded essentially the same opportunities as in the first year.(22) For the third year of the program it is planned to have approximately 75 students enrolled.

The six counties are: Bedford, Blair, Cambria, Fulton, Huntington, Somerset

B. Summary

Cambria County, Pennsylvania, and more specifically the attendance area of the Admiral Peary Area Vocational Technical School located in Ebensburg, Pennsylvania, has a high percentage of youth with academic, social, economic, employment, and physical handicaps. Smooth transition between public schooling and entering the world of work does not exist for the most part in the area. Furthermore, due to the low population density, youth in the rural areas experience difficulty in obtaining employment through the Bureau of Employment Security which is located in downtown Johnstown (approximately 20 miles from site of Admiral Peary AVTS).

Additionally, little opportunity is afforded to increase or broaden occupational aspirations or opportunities for youth, because just getting a job, any job, is the first matter of interest to most of the youth remaining in the county after high school. This may be why the job market entry and reentry rate for unemployed teenagers is at 12%. The selective process, by which the more able, academically, socially and economically, leave the area to attend college, other educational pursuits, or better jobs, leaves behind a high proportion of youth at the lower end of the scale to scramble for what jobs are available. Essentially, the economy of Cambria County is involved in an endless cycle; a vicious circle whereby there is no real diversified heavy industry, aside from mining and steel, coming into the area because there is no skilled help because the schools until recently, have been rural, fourth class districts. Additionally, the geography of the area has prevented the construction of sufficient superhighways which are necessary for a transportation network to bring in industry.

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CHAPTER II

GOALS AND OBJECTIVES

A. Introduction

The specific objectives of the project, as listed in the original proposal, are classified as either process or product objectives. The process objectives are of a more general nature and must precede the product objectives. The five process objectives for the project are presented as a group, followed by the specific objectives subsumed by the process objectives.

B. Process Objectives

1) To develop a "reality bound" program of Career Awareness for students in the elementary grades that will expose the students to many of the actual materials and equipment utilized in the world of work in general.

2) To develop a "reality bound" Career Exploration program for the junior high school or middle school students with actual "hands-on" experience in the exploratory sense in the various occupational clusters, and to make available to students sufficient information and experiences to allow them to chose a general direction in which they wish to pursue an occupation.

3) To develop Career Preparation programs in grades 10 thru 14, that integrate both home school and vo-tech curricula to provide job preparation for a variety of occupational areas commensurate with the students interest and ability.

4) To implement a placement procedure program whereby the AVTS and the school district will cooperate with the Bureau of Employment Security, other governmental agencies, business and industrial leaders, and educational leaders in the community to attack the long and short range problems of employment for those seeking it. Work experience and cooperative work study programs will be an integral part of the program. Placement in post secondary programs and higher education will also be included in this program.

5) To develop a total educational continuum, K-14, which offers the opportunities, information, and experiences to students in all grade levels so that they may be made more aware of the various occupations, relationship between occupations, and the important role that

chosen careers will play in their personal, social and economic lives; and to provide all students with sufficient information commensurate with their level and ability for developing and practicing decision making skills about their lives.

C. Product Objectives

1. The students in grades 1 through 9 will demonstrate:
   - (a) Significant improvement in knowledge of the world of work including:
     - i. Tools/occupation relationships
     - ii. Tools/function relationships
     - iii. Correction of common misconceptions
     - iv. Occupational characteristics and requirements
   - (b) Significant improvement in the role of personal choice in occupational planning.
   - (c) Significant improvement in perception of work and satisfaction derived from work.
   - (d) Significant improvement in attitude toward the skilled trades and crafts.
   - (e) Significant improvement in attitude toward school.
   - (f) Significant increase in knowledge of occupational alternatives.
   - (g) Significant increase in knowledge of programs offered by the AVTS and the high school.
   - (h) Significant improvement in the perception of the climate of the AVTS including:
     - i. Instructors
     - ii. Curriculum
     - iii. Students
     - iv. Facilities

(i) Significant improvement in the basic skills, including, but not limited to:

   i. Reading ability

   ii. Mathematics ability

2. Students in grades 10-12 will demonstrate:

   (a) Significant improvement in perception of work and satisfaction derived from school related activities.

   (b) Significant improvement in the perception of the role individual choice plays in occupational planning.

   (c) Significant improvement in perception of school climate including:

      i. Instructors

      ii. Curriculum

      iii. Students

      iv. Facilities

   (d) Favorable attitude toward and use of the counseling services, placement services and work experience opportunities provided them.

3. Teachers of students in the sending schools will demonstrate:

   (a) Significant increase in knowledge of programs and facilities offered by the AVTS and the high school.

   (b) Significant improvement in perception of the climate of the AVTS, including teachers, students, curriculum and facilities.

   (c) Significant improvement in attitude toward skilled trades and crafts.

D. Other Strategies

In addition to the above listed objectives, as formally presented in the original proposal, it is the strategy of the three year project to:

- Pilot all process objectives at one of five school districts supporting the AVTS during the first year,

- Disseminate successful outcomes to the other four school districts supporting the AVTS during the second and third years of the project while maintaining pilot activities at the first school district, and

- Develop a reliable and valid testing program to fill the void of instrumentation that exists for many of the product objectives in Career Education.

CHAPTER III

DESCRIPTION OF PROJECT DESIGN

A. General

The initial project design includes procedures for involving approximately 50% of the students in all grade levels 1 through 12 in the Central Cambria School District, both public and private schools. Table III-1 summarizes the statistics for the school district and includes numbers of schools with grade levels, numbers of students, teachers and counselors per school, and numbers of other professional or para-professional employees. For the first year of the project, all Career Education activities were to be performed on a pilot study basis in the public and private schools of the Central Cambria School District. Successful components of the program were to be disseminated to the other four school districts supporting the Admiral Peary AVTS during the second and third years of the project.

The Central Cambria Elementary School has grades K through 5 in one school building. There are 3 or 4 heterogeneously grouped classrooms per grade level and class size is approximately thirty. It was planned to have two classrooms per grade level, (grades 1 through 5) participating in Career Education activities.

The Central Cambria Middle School has grades 6 through 8 in one school building. Classrooms at each grade are heterogeneously grouped with the exception of a few select classes in mathematics and science. Homerooms and extra curricular or club activities are heterogeneously grouped across grade levels. (Heterogeneously grouped in this instance means that students are grouped alphabetically). Students do not move as intact classes from subject area to subject area. There are approximately 30 students per classroom and a total of approximately 750 students in the middle school.

The Holy Name School has grades 1 through 8 in one school building. There are 2 classrooms per grade level except for grade 2 where there is only one classroom. Students in grades 1 through 5 are heterogeneously grouped. Students in grades 6 through 8 are homogeneously grouped and for the most part move from subject area to subject area as intact groups by grade level. It was planned to have one classroom per grade level participate in Career Education activities. There are approximately 25 students per classroom at the Holy Name School.

The Central Cambria High School and Bishop Carroll High School have the usual departments by subject area and for the most part students appear to be "de facto" tracked by the curriculum they choose. There are approximately 950 students in the Central Cambria High School and approximately 750 students at Bishop Carroll High School.

Project activities are classified in 5 major areas and are staffed accordingly with 5 full time professional employees. The major areas are:

- Elementary School Career Awareness,
- Middle School Career Exploration,
- Secondary-Post Secondary Level Career Preparation,
- Career Guidance and Counseling, and
- Administration (including testing and evaluation).

Resumes of the five project staff are presented in Appendix III-1.

B. Elementary School Component

At the elementary grade levels (1-5), it was planned to select fifteen classrooms for participation, as listed in Table III-2. The classrooms are heterogeneously grouped. As previously noted, there are two classrooms per grade level participating at the Central Cambria Elementary School, and at the Holy Name Elementary School, one classroom per grade level participating. It was planned to have a total of approximately 450 students and 15 teachers in grades 1-5 participate in Career Awareness activities.

Initial plans called for supervised field trips to the Admiral Peary Area Vocational Technical School (AVTS), such that in the course of one school year, the students would be exposed to all six career clusters at the AVTS. These six career clusters have been cross referenced with the fifteen USOE clusters, in terms of occupations listed in the Dictionary of Occupational Titles (DOT), as presented in Appendix III-2. A master schedule of visits was to be prepared for all 15 participating classrooms at the two elementary schools. Students were to be transported as intact classrooms to the various assigned career areas at the AVTS. The students were to be accompanied by their teacher and several parents on these trips. Only one elementary classroom was to be scheduled to visit the AVTS at a given time in order to avoid any possible interference with the educational process at either school. The participating vo-tech instructor and senior vo-tech students selected by that instructor hosted each visit. The elementary students were to be briefed at their school on all procedures, particularly safety, prior to the trips. All students were to be provided with bump hats and safety goggles. When the students arrived at the AVTS they were to be given a brief introduction to the area being visited and then were divided into small groups to work with the vo-tech students.

Prior to any trips, each vo-tech instructor was to be contacted by project professional staff to discuss the sorts of activities that would be conducted in that career area. Such details included any specific safety precautions, in addition to general safety rules, materials or supplies needed, vocabulary lists, and student activities.

All AVTS instructors were to be provided with a master schedule of visits to their own areas; the AVTS administration was to be provided with a master list of visits to all areas; and the elementary school teachers were to be provided with a list of their scheduled trips.

C. Middle School Component

At the middle grade levels (6-8), all classrooms were selected for participation, as listed in Table III-2. As previously noted, the Holy Name Elementary School includes all grades, 1-8, whereas the Central Cambria Middle School includes only grades 6-8. It was planned to have approximately 900 students (750 public and 150 private) and approximately 33 teachers (26 public and 7 private) in grades 6-8 participate in Career Exploration activities.

Initial plans for supervised field trips to the AVTS were nearly identical to those previously described for the elementary components, with minor variations to accommodate the organizational differences in these two schools.

Master schedules of visits were to be prepared for the middle school classes, as was to be done in the elementary component. The procedures for field trips were to be essentially the same as for the elementary students, including orientation, safety, materials and supplies, vocabulary lists and activities.

After the initial orientation at the AVTS shop areas being visited, the students were to be divided into small groups to work with selected AVTS students. This process is similar to that performed with elementary students.

D. Secondary School Component

In contrast to the planned group activities and field trips conducted at the elementary and middle schools, a more individualized approach was to be utilized at the secondary level with a heavy career guidance component. This phase of the program was intended to help students in the difficult task of planning career goals, discovering and understanding their own abilities and interests, and making them aware of future career options.

For the ninth grade, it was planned to provide each student in the Central Cambria attendance area the opportunity to spend five half-days during one school week "working" with a highly skilled person at a career exploration site. This experience was to occur either at the AVTS or in the community, including the schools in the district. During this time, participating ninth grade students were to observe and then actually participate in some of the routine work activities that a person employed in that or a related occupation would be expected to master. After all students had finished one on site career experience, it was planned to provide the students with the opportunity to have a second career experience. This experience was intended to be either a confirming follow-up in the same career field or a new exploratory experience in a different area of interest.

The strategy to be utilized in grades 10-12 was to accommodate the organizational structure of the high school according to subject area departments and to work with small groups of students interested in and volunteering for a specific Career Education activity. As is the case with most other Career Education projects throughout the country, it was expected that the secondary level would be the area of slowest and least progress.

In general, secondary level Career Education activities were to be on an individual or small group basis. It was planned to request of instructors in various subject matter areas to allow those students participating in Career Education activities to do their subject matter assignments in relation to these special activities. Also, it was planned to place students in grades 10-12 on an individual basis in a work station that had direct application to one of their ongoing school studies.

As with the 9th grade career experience program, the work station could have been located at the AVTS or in the community.

E. Other Support Activities

In addition to the three major areas of project activities described above, other support activities were planned as follows:

- Career Guidance and Counseling,
- Post Secondary Career Education,
- Community Involvement, and
- Test Instrument Development.

1. Career Guidance and Counseling

The procedures described in sections A through D above, when taken in toto, were designed

- to increase the self awareness of each student,
- to develop in each student favorable attitudes about the personal, social, and economic significance of work, and
- to assist each student in developing and practicing appropriate career decision making skills.

In the elementary and middle school grade levels, a good deal of the human element concerning the dignity of work, the economic basis of work, self-appraisal, self-understanding, and value systems was to be dealt with in several ways. For example, it was planned to invite individuals employed in occupations of various clusters to speak to selected classes. Such discussions would include an individual or small groups. These activities were planned to be essentially self exploration, where students try out basic skills, not for mastery, but for information. Students should learn to realistically appraise their own limitations and abilities. The emphasis was to be as much in the affective domain as in the cognitive domain. Activities were to be planned so that students were encouraged to make decisions and judgments and then discuss why certain decisions were made i.e., what are their own value systems.

In essence, career guidance and counseling is considered to be a curriculum oriented activity. It was planned to have project career guidance personnel in the elementary and middle schools:

- to act as a consultant on personal development to the classroom teacher,
- to team teach with the teacher,
- to observe classroom behavior for the teacher,
- to conduct small group sessions, primarily dealing with the affective domain, and
- to guide, not lead students in decision making and value clarification.

2. Post Secondary Career Education

Because the plans for the floating community college mentioned in the original proposal werestill in the planning stages, it was planned to do exploratory work with St. Francis College (4 year institution), Mount Aloysius College (2 year institution), and Indiana University of Pennsylvania, as well as articulating the secondary component with adult evening school at the AVTS.

3. Community Involvement

It was planned to involve parents on the learning trips for the elementary and middle school students and to conduct a parents' night for Career Education. The Technical Advisory Committees at the AVTS were to be approached for assistance in forming a Career Education Advisory Committee. Cooperation with ongoing programs at the AVTS, including placement and cooperative education was planned in this component.

4. Test Instrument Development

Because of the general lack of reliable and valid test instruments for Career Education objectives, it was planned during the first year of the project to do a great deal of testing of students, teachers, parents, and businessmen. For the first year of the project, test data on locally developed test instruments were to be considered as strictly empirical and descriptive for exploratory purposes. Where national standardized tests that might be related to Career Education objectives were available, it was planned to use them, where appropriate.

It was also planned to look at the data by several classifications of students and teachers in an attempt to detect any factors that might obscure overall results. For reasons described in each component of Section IV, the three major factors selected that could affect test results are grade level, participation in Career Education activities, and school organizational structure, as embodied in the public and private school systems involved in the project.

CHAPTER IV

RESULTS AND ACCOMPLISHMENTS

A. General

Due to the late hiring of some project staff and the late scheduling of a Career Education workshop for teachers (the week before school began), there was not sufficient time to plan related activities prior to and as a follow up to each field trip and modifications to the initial plans were necessary.

It was decided to begin field trips as soon as possible to maintain the psychological momentum from the teacher workshops and to work on curriculum materials concurrently with the trips. The ability of all staff and instructors to simultaneously work with field trips, curriculum development, and teaching was overestimated and little curriculum development was accomplished. As a result, after the second or third trip for a given elementary or middle school classroom, there was a decrease in the interest in and the value of the field trip because it was not related to classroom activities, and the enthusiasm of visiting the AVTS had diminished.

During the months November 1973 to January 1974, questionnaires concerning Career Education activities were distributed to the teachers whose classrooms were participating in the field trips. Feedback from these questionnaires was evaluated by project staff in order to plan other Career Education activities. The results of this questionnaire are discussed in Section B-1.

Concurrent with the project staff's discomfort with the less than expected results for field trips, as evidenced by the above referenced questionnaire, a USOE Project Progress Monitoring Team conducted an on site visit 16-18 January 1974.

Among the recommendations made by the USOE team was the following:

> "The committee recommends the project staff intensify efforts in formalizing activities centered curriculum development and its proposed integration with the district's existing curriculum."

As a result of the team's recommendations, a moratorium was declared on all field trips until meaningful pre/post activities could be developed. A good example of such pre/post activities that were subsequently developed by the project is depicted in a segment of the film made at Admiral Peary, "The Sum of All Parts",(1) wherein 3rd grade students are involved both with the Horticulture/Floriculture career area at the AVTS and in their own classrooms. As plans were being formulated to interrupt field trips, alternative Career Education activities were being considered.

B. Elementary School Component

1. Activities

Based on a teacher survey information form (Career Education Activity Checklist - See Exhibit IV-1 for examples) administered during the period of November 1973 to January 1974 concerning comments and suggestions for the Career Education program, new insights were gained, as listed below:

- Field trips, by and large, were felt to be beneficial; however, they could be of more value if they were more closely coordinated as an integral component of the existing curriculum,
- Teachers indicated a need for additional Career Education resource and curriculum materials,
- Teachers requested more community and resource people to assist in various Career Education units,
- Teachers want more participation in the selection of the sites to be visited on the learning excursions, and
- Teachers desired less emphasis on skills and more emphasis on other Career Education activities.

Up to the time of the field trip moratorium, the project staff had been able to complete all the administrative procedures and to provide the necessary guidelines and materials required for field trips for the elementary component. These include:

- Guidelines and Procedures for Learning Excursions (Appendix IV-1),

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(1)"The Sum of All Parts" Educational Services, Inc., Waco, Texas, 1974.

- General Safety Guidelines (Appendix IV-1),
- Safety Guidelines for a particular Career area (See Appendix IV-1 for examples),
- A list of typical activities and vocabulary lists for each career area (See Appendix IV-1 for examples),
- A master schedule of learning excursions and individual schedules for each teacher, and
- An interview list for each teacher (See Appendix IV-1 for example).

Until the moratorium was imposed, much had transpired in terms of activities. Approximately 450 students in grades 1-5 in the two elementary schools attended at least one learning excursion to the AVTS. A total of 45 learning excursions to 17 of the 20 possible areas took place during the school year. Nearly all these trips occurred before the moratorium was imposed in early 1974.

An example of a field trip experience at the elementary level is described below.

A class of approximately 27 students accompanied by their classroom instructor and a few parents would visit a designated area at the vo-tech for "hands on" awareness of skills needed to perform specific occupational tasks.

Occupational tasks were observed after which the students had the opportunity to perform these same or similar tasks. For elementary students, occupational tasks displayed to the students were of such a nature as to demonstrate basic skills developed in a particular job area. Detailed skill development was not performed for this age group. For example; in the carpentry area, the students would perform simple tasks, such as using a saw or a hammer. More detailed "hands on" experiences were reserved for older children. When the field trip was concluded, the students and instructor would return to the classroom. In the classroom, a follow-up discussion concerning the field trip would occur.

On several occasions, a senior student from the AVTS visited the elementary school classroom before and/or after a field trip to discuss the career area that the students would visit. This supportive activity for field trips was conducted in the following areas:

- Horticulture/Floriculture,(1)
- Mining,
- Electronics, and
- Data Processing.

In addition to the field trips to the AVTS, several class trips were made into the community and several resource persons from the community were brought to the classroom. Included among these activities were:

- A visit to the Seldom Seen Valley Coal Mine by one class of 4th graders,
- A visit by a grocery store manager to a 2nd grade classroom,
- A visit to the St. Francis College Theater Arts center by one class of 4th graders, and
- A visit to the Johnstown Cambria County Airport as a supplemental visit to a unit in transportation by one class of 4th graders.

It was the consensus of the elementray school teachers and research project staff that pupils in grades 1-3 would benefit more from trips into the community or from visits by community resource people to the classroom until such time that curriculum activities could be coordinated better with field trips to the AVTS.

Other significant activities in the elementary component include:

- State Senator Louis Coppersmith made a presentation on careers in public service to students in the Central Cambria school district and selected AVTS students. Nearly all 4th and 5th graders (approximately 200) in both Holy Name and Central Cambria elementary schools attended,

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(1)These particular activities are depicted in the film "The Sum of All Parts", as referenced previously.

- A parents' night on Career Education was attended by approximately 35 parents of pupils in the two elementary schools. Parents were asked to respond to a questionnaire on Career Education prior to the presentation of the program describing the Career Education concept and how it was being implemented in the school district, and
- A total of 16 elementary grade (1-5) teachers attended the 4 day workshop prior to the opening of school in August, 1973. (See Exhibit IV-2 for the workshop agenda.)

As a result of:

- the teacher survey on how to improve field trips and Career Education activities,
- the USOE project monitoring team's recommendations, and
- the 3rd party evaluator's recommendation,

field trips to the AVTS were suspended while alternative and supportive activities were planned and developed.

Among these activities were the following:

- A list of elementary grade Career Education objectives was created (See Appendix IV-2),
- Several Learning Activity Packets were developed in support of field trips (See Appendix IV-3),
- A year end newsletter was published (See Exhibit IV-3),
- Career Education guidelines were promulgated for use by classroom teachers (See Appendix IV-4), and
- Career Resource Centers (CRC) were established and piloted toward the end of the first school year (See Appendix IV-5 for a brief description).

2. Testing and Evaluation

In addition to the formal outside 3rd party evaluation, the project staff had planned to pursue test instrument development to help fill the void of such instruments for measuring Career Education objectives. This testing falls into two categories, student outcomes and teacher outcomes.

Work in the student outcome area is measured by using a testing instrument provided by the 3rd party evaluators, the Elementary Career Awareness Questionnaire (ECAQ) (See Exhibit IV-4). Of primary concern in test development is a measure of instrument reliability and content validity. Accordingly, approximately 750 pupils in grades 1-5 were tested, using a pre and a post test. The students are classified as participating and non participating groups. Due to the differences in organizational structure and school size, as previously described, it was decided to look at test data under the additional classification of public and private schools.

Two test instruments are utilized with teachers. One instrument, the Career Education Information Form (CEIF) was supplied by the 3rd party evaluator (See Appendix IV-6 for a discussion of the CEIF). The other instrument is the Purdue Teacher Opinionnaire (PTO)(1). Two subtests of the PTO are of interest; subtest 2, Teacher Satisfaction and subtest 6, Curriculum Issues. Teachers are classified as attending or not attending the summer workshop and by public or private school. The CEIF was administered on the first day of the workshop, on the last day of the workshop and at the end of the school year. The PTO was administered on the first day of the workshop and at the end of the school year. Both the CEIF and PTO were administered to non workshop teachers at the beginning and at the end of the school year. In reading the results of testing it should be borne in mind that the project was notified of a 46% cut in funding (with a consequent loss of 2 professional personnel) in March, 1974. As a result, the ambitious undertaking of test instrument development was immediately cut back to those activities that were absolutely necessary to the operational aspects of the project. A great deal of preliminary data are presented and documented here for the record. For the most part, the data are handled descriptively with a few simple chi square tests or t tests presented. Because of lack of time and funds, as well as the exploratory nature of the first year testing program, post hoc tests have not been performed where significance was found (1% level). Also, the large number of questions analyzed would lend itself to capitalizing on chance when conducting tests of significance.

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(1)Available from Purdue University, LaFayette, Indiana.

A brief discussion of the results for the ECAQ is presented in the next several pages. It should be noted here that the test reliability as determined by the internal consistency method is 0.66 for the pre test and 0.64 for the post test. Both values are respectable for initial test development.

Questions #1 through #6 deal with students' knowledge of parents' occupations. In general, students improve from pre to post test on these questions. However, there appears to be some confusion concerning mothers' occupations. The students participating in field trips do not do as well as non field trip students from pre to post test. In fact, they lose ground on most questions. The no field trip students score higher overall on the post test. There is no apparent trend pre to post by the public/private classification. It should be noted that the differences among groups on the pre test would indicate that the two samples are not from the same student population.

In dealing with question #1, "Does Your Father Work?" and question #2, "Does Your Mother Work?" for the purposes of project objectives, the percent of students answering either "Do Not Know" or not answering (blank) are of more importance than any comparison of "Yes" and "No" answers across student groups. Inspection of Tables IV-1, and IV-2, for question #1 shows that 3.0% of respondents either do not know or do not answer on the pre test. The same figure is 3.6% for the post test, a slight increase. The percent of respondents answering "Yes" is over 90%, as would be expected. Due to lack of time, personnel, and funds, a confirmation of student responses with student records was not carried out. Such a comparison could have been quite meaningful for question #2, in view of the apparent confusion by students as to whether or not "housewife" was considered an occupation. There is no apparent trend by grade level for responses on pre or post test for question #1. On the pre test, the no field trip students are higher than the field trip students (3.7% vs. 2.3%)(1) and the private school students are higher than the public school students (4.0% vs 2.7%). On the post test, the field trip students are higher than the no field trip students (4.3% vs. 2.9%) and the public and private school students are the same (3.6% vs. 3.5%).

For question #2, 3.7% of the respondents on the pre test either do not know or do not answer the question about mothers' occupations. See Table IV-3 and IV-4. The same figure on the post test is 2.3%, a significant decrease. There is no apparent trend by grade level. On the pre test, the no field trip students are higher than the field trip students (5.0% vs. 2.3%) and the public school students are slightly higher than the private school students (3.7% vs. 3.5%). On the post test, the no field trip students are the same as the field trip students (2.3%) and the private school students are much higher than the public school students (3.5% vs. 1.8%). From pre to post tests, the percent of "Yes" responses increase from 41.6% to 48.2%. Although no confirmation of the answers was obtained from student records or personal interviews, one might speculate that more pupils decided that "housewife" is in fact an occupation.

On question #3, Table IV-5 and IV-6, "Do You Know What Type of Work Your Father Does?", there is a decrease from 8.4% to 7.5% between pre and post for the combined number of Do Not Know and no responses. On the pre test, the no field trip students are higher than the field trip students (10.3% vs. 6.5%) and the private school students are higher than the public school students (10.1% vs. 7.8%). On the post test, the field trip students are higher than the no field trip students (8.6% vs. 6.3%) and the private school students are higher than the public school students (9.0% vs. 6.9%). There is a definite trend on "Yes" answers by grade level for both pre and post test, although this trend levels off in the post test. The greatest gains are made by 1st graders.

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(1) In the discussion of questions #1 through #4, the percentage figures for public/private or field trip/no field trip presented in the text are calculated by weighted averages from figures presented in the tables.

For question #4, Table IV-7 and IV-8, the same confusion as evidenced on question #2 exists concerning mothers' occupations. The combined number of Do Not Know and no responses decreases slightly from 22.5% to 22.1% from pre to post test. On the pre test, the no field trip students are higher than the field trip students (28.8% vs. 16.4%) and the public school students are higher than the private school students (23.1% vs. 20.7%). On the post test, the field trip students are higher than the no field trip students (25.4% vs. 18.3%) and the public school students are higher than the private school students (23.0% vs. 19.6%). There is a significant increase from 51.8% to 61.9% in number of "Yes" responses. There is no apparent trend by grade level in either pre or post test. There is an anomaly in the data as evidenced by the unusually low percent of "Yes" responses for grade 2, both pre and post, as compared with the other grade levels.

For questions #5 and #6, identifying fathers' and mothers' occupations, respectively, a random sample of 80 students was selected and their pre and post test answers, as well as answers from a personal interview, were compared to student records. Inspection of Table IV-9 indicates that students have made significant gains from pre test to post test on naming their fathers' occupations.

The interview and post test results are about the same. It should be noted that the no field trip students did slightly better than the field trip students and that the gains for the field trip students are greater. A different situation exists for answers to the question about mothers' occupations. Correct identification of mothers' occupations is much lower on the pre test than for fathers' occupations. The percent of total correct responses during the interview is approximately the same for both mothers' and fathers' occupations. The post test scores about mothers' occupations drop from the interview; particularly for the field trip students (-20.5%). The confusion of the categorization of housewife as working or not working persists here, as evidenced in questions #2 and #4. The high percentage of correct responses for mothers' occupations during the interview as compared with post test results raises the question of some possible inadvertent coaxing in one form or another.

Questions #7 and #8 deal with awareness of jobs in the community, including the school. For the 17 occupations included in each of these questions, there is a general upward trend by grade level in most cases, with 1st and/or 2nd graders showing the best gains pre to post. The total of 34 occupations involved fall in 3 response categories:

I 80% or more of the students giving the desired response on the post test only (7n, 8d, 8g, 8m),

II 80% or more of the students giving the desired response on both pre and post test (the balance of those not listed in either I or III),

III 20% - 80% of the students giving the same responses within both pre and post test (7c, 7h, 7p, 8e, 8i, 8j, 8k, 8l, 8n, 8o)

For those questions falling in category I, it is apparent that learning to an acceptable level has taken place from pre to post test.

Answers in category II are so obvious that students respond correctly even on the pre test.

The answers in category III indicate that confusion exists both before and after, with or without Career Education activities taking place. However, in nearly all cases, significant gains are made within this category also.

The results of responses according to the three categories can be summarized as follows:

13 of the 17 occupations for question #7, school, are in category II, indicating that the students are quite familiar with that setting. An additional 1 of 17 is in category I, leaving 3 of 17 in category III where confusion exists. For question #8, community, 7 of 17 occupations fall in category III, indicating either confusion or a great diversity of student background. 7 of 17 occupations are in category II, and 3 of 17 fall in category I.

Two general statements can be made to explain part of this apparent confusion on questions #7 and #8.

The first is that two different student populations exist in the sample; one is the students in the private school, 95% of whom live in the Ebensburg area; whereas the students in the public school have a more heterogeneous list of residences ranging from Ebensburg to farm life or small coal towns. Also, there are differences in the operation of the two schools. At the private school, there is no secretary, the principal does substitute teaching and the cafeteria is smaller and relationships with the workers are less formal. A greater percentage of students are bussed to the public school than the private school. In general, students in the private school tend to be more positive in their responses as to the existence of jobs in the school and in the community.

The second possible reason is the large variation in life styles and residences in the sending school district, which range from the county seat (Ebensburg-population 5,000) to small coal towns (populations of about 500) to rural farms. The life spaces of these children do not overlap, particularly in terms of occupations observed outside the school building. The students living in Ebensburg would be exposed to the greatest variety of occupations, nearly all of those listed in both questions, whereas a rural farm student would be exposed to very few. It should be noted here that the differences between groups on the pre test would indicate that the two samples might not be from the same student population.

In addition to the several trends previously described, some unusual or unexpected results are itemized by question here as follows: (See Tables IV-10 through IV-77):

#7c - Maintenance Man; 4th grade on pre test and 5th grade on post test are unusually far out of line with the other grade levels (Table IV-14),

#7g - Radio Announcer; the private school is much higher on pre and post tests (Table IV-23),

#7h - Secretary; the large difference in positive responses between public and private students on both pre and post tests and the large drop in number of positive responses pre to post for the private school students (Table IV-25),

#7i - Cook; the large loss and lowest percentage for fifth graders on the post test (Table IV-26),

#7j - Newspaper Reporter; the large loss and lowest percentage for fourth graders on the post test (Table IV-28),

#7l - Waitress; large change pre to post for private, field trip students (Table IV-33),

#7n - Bus Driver; 2nd graders unusually low on pre and post test. Also, the private school response is much lower on pre test than the public school (Table IV-36,37),

#7o - Maid; large loss pre to post by 4th graders (Table IV-38),

#7p - Teacher's aide; private school response higher on pre test than public school (Table IV-41),

#7q - Salesman; pre test public school responses unusually high (Table IV-43),

#8d - Druggist; private higher on pre and post (Table IV-51),

#8e - Train Conductor; private, no field trip, post test high (Table IV-53),

#8g - Policewoman; private higher pre and post (Table IV-57),

#8i - Farmer; private, no field trip, higher on post test (Table IV-61),

#8k - Television Announcer; private higher on pre and post and show greatest gains (Table IV-65), and

#8l - Dress Designer; private higher on pre and post and show greatest gains (Table IV-67).

In reviewing the results for question #9, it must be noted that the format of the question was changed such that on the pre test, only one choice is allowed and on the post test multiple responses are accepted. From Table IV-78, questions 9-1, it is apparent that definite trends by grade level exist on the pre test. The importance of the doctor increases with grade level and the other 3 occupations decrease in importance with grade level. It is interesting to note that nurse fares poorly at all grade levels and that doctor and ambulance driver are of equal importance to first graders. Post test data indicate a welcome result in that all jobs are rated important by at least 90% of the students. However, the same downward trend by grade level is evident for all but the doctor's occupation. Overall, the hospital worker replaces the nurse at the bottom of the hierarchy.

Referring to Table IV-79, it is evident that there are no significant differences between field trip/no field trip or public/private on the pre test. On the post test there is a slightly increased importance of all jobs by the students attending field trips as well as students in the private schools.

From Table IV-80, question 9-2 on the pre test, it is apparent that the teacher becomes more important in the 4th and 5th grades than at the lower grades, but still does not exceed the importance of the principal. Secretaries and janitors are considered of equal importance with a downward trend by grade level.

On the post test, (Table IV-80) the teacher exceeds the principal in importance at every grade level. Unlike the hospital situation in the previous question, the supporting workers, janitor and secretary, are considered of less importance, with a downward trend by grade level. The increases for secretary and janitor are significant from pre to post test,however, both going from approximately 8% to 80%.

On the pre test (Table IV-81) private school students assign more importance to the principal than do the public school students. On the post test there is no difference between public and private, except for the secretary.

The answer to question #10, importance of all jobs (See Table IV-82) does not fully agree with the results of question #9. There is a decrease in overall favorable response from pre to post test, with all but the first graders being less favorable pre to post. No trend by grade level is apparent.

On the pre test (Table IV-83) the private school students are more positive in their attitudes toward jobs than the public school students. The same holds true on the post test, where there is an overall decrease. Only the private, no field trip students do not lose ground on the post test.

In the analysis of question #11, it should be noted that on the post test, it was more emphatically stated that only one choice was allowed. Otherwise, the analysis for both tests is the same.

It should be noted in Table IV-84 that on both pre and post tests, there is a downward trend by grade level for the importance of both money and college as they pertain to personal happiness and a concurrent upward trend by grade level for importance of personal ability and doing what you like to do. The importance of college to personal contentment is lowest on pre and post test, and decreases further from pre to post. The importance of ability and doing what you like to do is the most important on pre and post tests and increases from 54.7% to 69.0%.

On the pre test (Table IV-85) the private school students are more favorable to ability and doing what you like to do than are the public school students. Consequently, they are less favorable toward the money and college options, as compared with public school students. On the post test, all groups decrease the importance of money and college and increase the value of ability and doing what you like. The private school students are much more favorable to ability and doing what you like than are the public school students. Consequently, they are less favorable to the other two options than are the public school students. The field trip students exhibit a significant decrease in college importance going from pre to post test than do the no field trip students.

A brief discussion of the Purdue Teacher Opinionnaire (PTO) results is presented below (See Table IV-86).

For Factor 2, Teacher Satisfaction, the workshop teachers increase slightly from 11th to 13th percentile. The private school teachers increase from 83rd to 95th percentile, whereas the public school teachers decrease from 20th to 8th percentile. The change is even more dramatic when we consider that both groups are going against the "regression effect" at opposite ends of the scale. Overall, elementary teachers decrease from 35th to 27th percentile on this factor.

On Factor 6, Curriculum Issues, all groups increase, with an overall increase from 29th to 46th percentile. The workshop and non workshop teachers increase about the same with the non workshop teachers slightly higher on pre and post test. The private school teachers have a dramatic increase from 49th to 88th percentile.

Considering Factors 2 and 6 together for elementary school teachers, the non workshop teachers do better than workshop teachers and private school teachers do better than public school teachers on both pre and post tests. The large differences on pre test between workshop and non workshop or public and private teachers might indicate that the samples are not from the same teacher population.

C. Middle School Component

1. Activities

As previously described at the beginning of an earlier section on the elementary component, the middle school teachers have responded to the Career Education Activity Checklist in about the same fashion as did the elementary teachers (See Exhibit IV-1).

Up to the time of the field trip moratorium, the project staff had been able to complete all the administrative procedures to establish guidelines and identify the necessary materials required for field trips. For the middle school component, these include:

- Guidelines and Procedures for Learning Excursions (Appendix IV-1),
- General Safety Guidelines (Appendix IV-1),
- Safety Guidelines for a particular career area (See Appendix IV-1 for examples),
- A master schedule of learning excursions and individual schedules for each teacher,

- An interview list for each teacher (See Appendix IV-1 for example), and

- A listing of learning stations at the AVTS for middle school students.

Until the moratorium was imposed, much had transpired in terms of activities. Approximately 410 students in grades 6-8 in the two middle schools attended at least one learning excursion to the AVTS. A total of 21 learning excursions to 9 of the 20 possible areas took place during the school year. Nearly all of these trips took place in late 1973. The format of these trips was slightly different from those previously described for the elementary grades. In particular, small group learning stations where more individual "hands on" experiences could be gained, were stressed.

As with the elementary grade field trips, a general set of instructions and safety procedures was developed for the field trips. In addition to the vocabulary lists and small group activities developed for the elementary grades, specific activities for more individual involvement of the 6th, 7th and 8th graders were planned and implemented to offer meaningful "hands on" experiences.

In contrast to the elementary field trips of intact classrooms (approximately 27 students) for a 45-60 minute period, middle school learning excursions involved about 75-80 students (alphabetically selected) and several instructors bussed to the AVTS for an entire a.m. or p.m. session of about 150 minutes. Upon arrival, these groups were divided into sub groups of 15-20 and assigned to several vo-tech instructors in the same or related career areas. Each instructor in turn set up three to six learning stations attended to by vo-tech students where visiting students could explore skills necessary for related occupations. All middle school students were exposed to two of these four major areas (six to twelve learning stations) on any given a.m. or p.m. trip. A list of learning stations by area can be found in Appendix IV-1.

Follow up activities in the Central Cambria and Holy Name Middle School grades were more difficult to manage than at the elementary grade levels, because of the previously described scheduling schemes. Central Cambria Middle School students were selected for field trip participation alphabetically, by grade level. This meant that of the 75-80 students on a particular field trip only 8-10 would be in any given classroom for pre and post activities at the home school. To further complicate matters, these 8-10 would not necessarily be together from class to class throughout the day. More pre and post field trip activities did occur at the Holy Name School than at the Central Cambria Middle School because of the more homogeneous scheduling plan wherein students were together for field trips and classroom activities.

In addition to and as alternatives for the field trips to the AVTS, other activities involving the community, the home school, and resource persons were carried out as follows:

- The instructor in Marketing Technology at the AVTS made a presentation to a 6th grade English class at the middle school. This presentation was video-taped by students in the electronics course at the AVTS and used as a teaching aid in other English classes,

- Career Resource Centers (CRC) were established for use by middle school teachers and students. (The CRC at Holy Name was set up for 2 components in the same building, as contrasted with one CRC each for the Central Cambria elementary and middle schools),

- Club activities became one of the focal points for Career Education information at the middle school. The four clubs started during the project year were Art, Stagecraft, Model Building (science), and Auto Mechanics. Equipment, supplies, and audio-visual materials were procurred for these clubs,

- Approximately 80 students in grades 6-8 attended Senator Coppersmith's presentation, as described previously under the elementary component,

- An in-service day on Career Education and Curriculum Development was conducted by the Career Education project staff and outside consultants from Pennsylvania State University,

- A middle school guidance program for state certification was prepared for the Central Cambria administrative staff with the help of Career Education project staff. A definite emphasis on Guidance and Counseling was included in the proposed program. (See Appendix IV-7),

- A six week guidance unit on Career Education was developed and piloted with 60 students at Holy Name School,

- In conjunction with the art club at the Central Cambria Middle School, four groups of students (30 total) experienced 2 or 3 sessions on Career Education, CRC use, personal interests, careers in Art, and the world of work in general,

- The auto mechanics club invited 2 local race enthusiasts to make a presentation, including slides and racing equipment,

- A group of approximately 75 students visited the Central Cambria High School business education department. The procedures for this field trip were similar to those utilized at the AVTS, and

- A total of 21 middle school teachers attended the 4 day workshop prior to the opening of school in August, 1973.

2. Testing and Evaluation

For the goals associated with student outcomes, the Career Maturity Inventory (CMI)(1) was administered to 139 students in grade 6, 7, and 8.

There are six sub tests on the CMI, as follows:

Subtest		Factor
1	-	Self Appraisal
2	-	Occupational Information
3	-	Goal Selection
4	-	Planning
5	-	Problem Solving
6	-	Attitude

The test is administered in two parts, with subtests #1 through #5 in one section and subtest #6 in a second section.

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(1) Available from CTB/McGraw-Hill, Monterey, California.

The students are classified according to whether or not they were participating in specific planned Career Education activities. As explained previously, the students are also classified as to public and private school. No locally prepared tests were utilized at these grade levels.

Teacher outcomes at the middle school level are measured in the same manner as previously described for the elementary school teachers.

The results of student outcomes are discussed below.

For grades 6-8, the CMI was administered to a sample of students randomly selected from participating classrooms. In this case, participating is defined as 3 or more field trips and non participating is 1 or 0 field trips. Raw scores and national averages were provided by the scoring service for the six sub tests. Standard deviations were calculated by project personnel.

For 6th graders, the overall mean score on each sub test exceeds the national average (See Table IV-87). In comparing participating and non participating groups, only on sub test #5 does the participating group do better. Also, the private school students exceed the public school students on all sub tests except #3. It is interesting to note that the standard deviation on sub test #6 is quite a bit larger for all groups than on the other 5 sub tests.

For 7th graders, the overall mean score on sub tests #1 and #3 are lower than the national average (See Table IV-84). They exceed the national average on the other 4 sub tests. On sub tests #2 and #3, the participating and non participating students are about equal. On the other 4 sub tests, the non participating students do better than does the participating group. Again, the private school students do better than the public school students in all sub tests with the exception of test #4. As with the 6th graders, the standard deviation on sub test #6 is larger for all groups than on the other 5 sub tests.

For 8th graders, the participating students and the private school students score lower than the national average on sub test #1 (See Table IV-89). On all other sub tests, local averages exceed the national averages. Only on sub test #5 do the participating students exceed the non participating students. The public school students do better than the private school students on sub tests #1 through #4. The standard deviation for all groups on sub test #6 is lower than those for the 6th and 7th graders and is about equal to the standard deviation of the other sub tests.

Except for 8th grade students, the general trend is that non participating students do better than participating students and private school students do better than public school students. Only at the 8th grade level do the public school students exceed the private school students. Only on two sub tests at the 7th grade level do the local groups fall below national averages. On all other sub tests at the 3 grade levels, the national averages are exceeded by local averages.

For teacher outcomes, the PTO results are discussed below (See Table IV-90).

On Factor 2, Teacher Satisfaction, the workshop teachers drop from 42nd to 30th percentile and the non workshop teachers exhibit a dramatic drop from 87th to 42nd percentile. The public school teachers drop greatly from 56th to 12th percentile while the private school teachers increase from 91st to 99th percentile; a highly significant increase when one considers the regression effect. Overall, the middle school teachers drop from the 62nd to 34th percentile, on Factor 2.

For Factor 6, Curriculum Issues, the workshop teachers increase significantly from 13th to 39th percentile, while the non workshop teachers decrease from 73rd to 60th percentile. The public school teachers increase from 20th to 21st percentile and the private school teachers increase from 95th to 99th percentile (again, against the regression effect). Overall, the middle school teachers increase from 38th to 49th percentile.

Considering Factors 2 and 6 together for middle school teachers, the non workshop teachers exceed the workshop teachers and the private school teachers exceed the public school teachers on both pre and post tests. As previously stated for elementary teachers, the large differences on the pre test might indicate that the samples might be drawn from different teacher populations.

D. Secondary School Component

1. Activities

Perhaps the most successful activity developed during the first year of the project is the 9th grade apprenticeship program. Although the students are classified in the secondary component, the actual work in developing the apprenticeship program was carried out by the Career Guidance and Middle School project coordinators. Before any actual work with students began, it was necessary for counselors and/or administrators to fully understand the purpose of the project. The cooperation of teachers who were to be involved was essential. Participating students missed approximately half of their classes for five consecutive days. Those who were involved in the pilot study were held responsible for notifying their instructors and completing their home-school class assignments in addition to the work required at the Career Experience site.

The first student contact came through a general assembly of all ninth grade students (approximately 300) early in the school year.

Assembly activities included:

- A slide presentation of all available Career Experience sites,
- A brief written explanation of the program for student and parent information (See Appendix IV-8),
- A brief verbal explanation of the program,
- An application form indicating student interest and parental consent. Return date and place for this form were also indicated to students at this time (See Appendix IV-8), and
- A discussion session after group dismissal, to answer individual student inquires.

Approximately one week after the initial student contact, coordinators of the program were available for an entire day to collect completed application forms and to discuss items of concern to students considering the program. Study periods, time between classes, lunch periods and class release time were used as ways of freeing students to meet with project coordinators. Notification posters and public address announcements stating the date, time, and place for collection of forms and availability of home-school counselors were found to be an effective means of getting general program information to students. Approximately 185 students from a total possible of 293 students (63%) applied for the program.

Application forms were received and a master schedule of ninth grade Career Experience visits was developed and disseminated to the appropriate personnel.

A small group meeting involving all students scheduled to have a Career Experience during any given month was held to discuss:

- Safety factors and precautions on the job site,
- Special clothing required,
- Procedures for gaining permission from appropriate school personnel were outlined (See Appendix IV-8), and
- Directions and procedures to be observed at the job site.

Although two evaluation forms were submitted for each participating ninth grade student, (See Appendix IV-8) it is felt that more meaningful personal interaction between school personnel and student participants (such as group counseling services) would be extremely beneficial in addition to these checklists. On a 5 point scale (1=low and 5=high), overall program ratings by the 120 ninth grade students who participated in the Career Experience Program and completed the evaluation forms average 4.2. The 20 AVTS teachers give the program a 3.9 average, and the 96 AVTS upperclassmen also rate the program at the 3.9 level, on the average. These data are presented in Appendix IV-8.

A total of 152 9th grade students participated in the first year of the 9th grade Career Experience program. 49 students took advantage of the opportunity to have a second experience. 31 of these 49 students visited the same career area on both career experiences.

A serious concern on the part of the project staff was that this program would become a "pre-vo-tech" program rather than a true Career Exploration experience. However, results show that only 46% of participating ninth grade students applied for admission to the AVTS and only 63% of ninth graders applied for the 9th grade Career Experience program. A summary of these findings is presented in Table IV-91.

Other activities at the secondary level that were successfully completed include:

- A Career Militia Day was conducted in cooperation with the USAR to provide students with the opportunity to explore career possibilities in the military, with particular emphasis on the vast number of civilian related jobs available in the military,
- A Career Education Symposium was conducted in cooperation with the Department of Industrial Relations, St. Francis College, Loretto, Pa. The theme, "Career Education and the World of Work," focused on secondary and post secondary career education (See Exhibit IV-5),
- Several advanced students in a biology class at Bishop Carroll High School conducted independent study projects in the Environmental Control Technology course at the AVTS,
- An interdisciplinary art project was completed that involved students from art, welding, and drafting,
- Several business education students from the participating high schools completed mini courses at the AVTS in keypunching and/or cash register operation to supplement their business education course work,

- Six seniors in plumbing at the AVTS spent two days at Union Headquarters in Belle Vernon, Pa., learning about union organization. These seniors then made reports to other classes in the construction trades career areas,
- Selected Horticulture/Floriculture students visited all six sending high schools with special floral displays and worked with students in each high school on taking orders and selling flowers,
- A total of 9 secondary school teachers attended the 4-day workshop prior to the opening of school in August 1973,
- A Career Resource Center (CRC) was established late in the school year at the Central Cambria High School and materials received for the CRC at Biship Carroll High School, and
- An Information Service on Career opportunities was developed by the Career Guidance project personnel and piloted with seniors in one of the participating high schools. (See Appendix IV-9)

2. Testing and Evaluation

Two test instruments are utilized to measure student outcomes in grades 9-12. The CMI was administered to 139 students in grades 9-12, classified according to whether or not they were participating in specially planned Career Education activities. As explained previously, the students are also classified as public or private school. The second student outcome instrument is a locally developed test, the Career Decision Questionnaire (CDQ). See Appendix IV-10 for a discussion of the pilot study using approximately 700 AVTS students for factor analysis, reliability, means, and standard deviations. Teacher outcomes at the high school level are measured in the same manner as described for elementary and middle school teachers (See Appendix IV-6).

The results for student outcomes are discussed below.

For students in grades 9-12, the Career Maturity Inventory (CMI) was administered to a sample of students randomly selected from two categories, participating and non participating students. For the ninth graders, participating students were selected from those in the apprenticeship program. For grades 10-12, students involved in special career education activities are defined as participating. Scoring was provided, as described for the middle school students.

For 9th graders, participating students and public school students score below the national average on sub test #1 (See Table IV-92). All student groups exceed the national average on the other 5 sub tests. The participating students exceed the non participating students on sub test #4 and the two groups are about equal on sub test #6. On the other 4 sub tests, the non participating students fare better than the participating students. On sub tests #3 and #6, the public school students do better than the private school students. On the other 4 sub tests, these outcomes are reversed, with private exceeding public. It is interesting to note that on sub tests #1, #2, #3, and #6, the standard deviations for participating students are greater than for non participating students. Only on sub test #6 is the standard deviation for private schools greater than for public schools.

For 10th graders, although the local averages are above the national average on all but sub test #6, the participating students score below the national average on sub tests #3 and #4 (See Table IV-93).

Also, both public and private students fall below national average on sub test #6. On all sub tests, the participating students score less than the non participating students. In addition, the standard deviations for all six sub tests are greater for participating than non participating students. The private school students exceed the public school students on all 6 sub tests. On sub tests #4 and #6 the public school standard deviations are quite a bit larger than for the private school students. On the same two sub tests, the participating students have standard deviations quite a bit larger than the non participating students.

For 11th grade students, all groups score higher than the national average on all sub tests (See Table IV-94). The participating students do better on sub tests #2 and #3 and are about equal with the non participating students on sub test #6. The non participating students do better on the other 3 sub tests. The private school students exceed the public school students on all 6 sub tests. On sub tests #1 through #5, the standard deviations for the private school students are quite a bit smaller than for public school students. On sub test #6, the standard deviations for all classifications are smaller than at the lower grades.

For the 12th grade groups, the students score above the national average on 5 of the 6 sub tests (See Table IV-95). On sub test #1, the private school students are the only classification not to fall below the national average. On sub tests #1, #2, and #4, the participating students exceed the non participating students. The standard deviations for all classifications across all sub tests are about equal except for participating students and public school students on sub test #6, where those values are quite a bit larger than the others.

The Career Decision Questionnaire (CDQ) was administered to a random sample of students in grades 9-12, classified as participating and non participating. A t test shows no statistical significance at any grade level. (See Table IV-96). It is interesting to note that the 9th grade students participating in the apprenticeship program score highest and have the largest standard deviation. See Appendix IV-10 for a discussion of the CDQ.

The results for teacher outcomes on the PTO are discussed below. (See Table IV-97)

On Factor 2, Teacher Satisfaction, the workshop teachers decrease dramatically from 98th to 49th percentile. The non workshop teachers decrease from the 18th to the 4th percentile (against the regression effect).

The public school teachers decrease from 18th to 2nd percentile and the private school teachers decrease from 27th to 11th percentile.

For Factor 6, Curriculum Issues, the workshop teachers increase dramatically from 9th to 91st percentile! The non workshop teachers decrease from 49th to 38th percentile. The public school teachers increase from 54th to 60th percentile. Overall, the secondary school teachers increase from the 41st to 44th percentile.

Considering Factors 2 and 6 together, there are no obvious or consistent trends as is evident with the elementary and middle school teachers. The workshop teachers have a large decrease on Factor 2 but still are significantly better than the non workshop teachers. On Factor 6, the workshop teachers have an unusually large increase, 82 percentile points, whereas the non workshop teachers lose 11 percentile points. The public school instructors are lower on both the pre and post tests than the private school teachers. As mentioned previously for the elementary and middle school teachers, the large differences on pre test scores seem to indicate that the samples might be drawn from different teacher populations.

E. Other Support Activities

1. Career Guidance and Counseling

Career Guidance and Counseling is viewed as a curriculum oriented activity. Project counseling personnel assume the role of consultants for guidance related activities in assisting participating teachers and other project personnel.

For the most part the activities involving Career Guidance and Counseling are incorporated in the various components of the 1-12 program, as previously described. Examples by component include:

- **Elementary**
  Supplemental classroom units entitled *My Book About Me* (grade 1) and *This Is Me* (grade 3) have been adapted from the Syracuse, N.Y. Career Education project.
- **Middle School**
  Affective units dealing with personal interest, ability, and choice in relationship to the career selection process have been conducted with 8th grade Art Club students at the Central Cambria School.

A six week *Treasure Hunt* unit dealing with self-confidence and the decision making process has been conducted with the entire 6th grade at the Holy Name School.

- **High School**
  The 9th grade Career Experience Program has been developed and implemented by the guidance and counseling personnel on the project staff.

Other Career Guidance and Counseling related involvement by project staff include:

- Review and selection of materials for the Career Resource Centers at all grade levels,
- Development of a computerized Information Service for middle school and high school students, and
- Assistance in testing students and teachers and development of the CDQ.

2. Post Secondary Component

Local planning for a floating community college conducted under separate funding is behind schedule and the first planning stage is not quite complete at this time.

Exploratory discussions have been held with staff members at St. Francis College, Mt. Aloysius Jr. College and Indiana University of Pennsylvania for activities to be conducted during the second project year.

3 Community Involvement

A parents' night was held at the AVTS with approximately 35 persons attending. A discussion of the Career Education concept and more specifically, the involvement of local schools in this project was conducted. A slide presentation showing current project activities was used as a starting point for discussion.

For in-school activities, nearly all field trips have had several parents involved. Also, several resource persons from the community have made classroom presentations, as described previously.

For in-school activities, nearly all field trips had several parents involved and several resource persons from the community made classroom presentations, as describe previously.

A sample of parents and local businessmen has been tested, using the same instrument as was used with teachers, (i.e. the CEIF). As stated previously for teacher outcomes, the 3rd party evaluators report on these test results will suffice for this report. Further discussion of the CEIF test instrument is presented in Appendix IV-6.

As part of the standard operating procedures of an AVTS, a placement counselor and two cooperative education instructors have been hired as part of the operating staff of the school. All three of these professional personnel were located with the research project staff for a period of five months to become acquainted with the Career Education activities, prior to assuming their respective positions in the operational component of the AVTS.

4. Testing and Evaluation

As part of the planned Career Education testing activities for the project, the following have been accomplished:

- Approximately 750 elementary students have been tested with a locally developed instrument, the ECAQ,
- 139 middle school students have been tested with a national standardized instrument, the CMI,
- 139 secondary level students have been tested with the CMI,
- 133 secondary level students have been tested with a locally developed test instrument, the CDQ,
- A pilot group of 691 AVTS students in grades 10-12 have been tested with the CDQ,
- 28 elementary, 31 middle school, and 52 high school instructors have been tested with a national standardized test, the PTO,

- 26 elementary, 28 middle school, and 52 high school instructors have been tested with a locally developed test instrument, the CEIF,
- 47 parents and 73 businessmen have been tested with the CEIF, and
- The data from the above testing program have been analyzed and the results presented in this report.

Additional comments on the testing program are presented here. As stated previously, the mid year notification of a 46% cut in project funding for the second and third years of the project, and a subsequent suggestion that first year project spending be reduced wherever possible for the purpose of carrying over surplus first year funds into project year two, necessitated an immediate reduction in test related activities to the minimum necessary for the successful operation of the project. The statistics department of Indiana University of Pennsylvania was contracted to perform statistical analysis of the data collected from these tests. Computer printouts of all data were provided to the 3rd party evaluators and local project staff examined the statistical results for possible significant findings. In addition to results previously reported under each grade level component of the project, some interesting outcomes have been observed.

Although the ECAQ exhibits a respectable cooefficient of reliability (pre test; $r_{kk} = 0.66$ and post test; $r_{kk} = 0.64$) there is some question of content validity. For example, question #8 lists 17 occupations which cover only 4 of the 15 USOE clusters. In some cases, terms that could be almost synonomous or would have more familiar synonyms in an elementary student's mind are used.

For example, the terms waitress, cafeteria worker, and cook are all presented; whereas maintenance man is a general term that may or maynot include "janitor" or a "maid" in a student's mind.

Specific items on the ECAQ in questions #7 and #8 point out the problems involved in developing a general test instrument for all student populations. As previously described, the private school students' residences are more geographically restricted than the those of the public school students. Most of the private school students live in Ebensburg, the county seat. Also, the organizational structures of the public and private schools are different enough to elicit different correct answers to the same questions. Examples illustrating the above two factors are listed below:

- There is no secretary in the private school,
- There are two dress factories in Ebensburg,
- There is a policewoman in Ebensburg,
- There are two pharmacies in Ebensburg,
- Students in grades 7 and 8 at the private school are used frequently to help the teacher; thus, the possible teacher aide connotation,
- The private school principal does substitute teaching, and
- More public school students are bussed than private school students.

Questions #1 through #6 can be reworked to reduce the amount of confusion, particularly as it relates to the classification of housewife. In general, the ECAQ can be considered as a good starting point for further test development. However, as is ususlly the case with locally developed tests, proposed additional work is needed on reliability and validity under more controlled conditions of student population and student participation.

Similar problems with student population and participation with the middle school and high school students exist.

In general, pre test data seem to indicate that students in the classifications "field trip/no field trip" or "public/private" are from different student populations. This situation, plus previously described questions of content validity of testing instruments, preclude any detailed or firm conclusions when dealing with comparisons of groups. However, some general trends have been observed that raise questions for further investigation under more controlled conditions. Treatment contamination occurred as a result of the field trip moratorium and the fact that the middle school students did not participate as intact classrooms. Contamination at the high school level also occurred due to the volunteer nature of participation of few students from each of several classes.

In general, students participating in Career Education activitied did not do as well as students not participating. However, the group variance (standard deviation), in general, was greater for students participating in Career Education activities. It might be concluded that the Career Education activities were much less structured than the traditional classroom activities and resulted in students who were participating becoming less sure of their responses because they were exposed to many more options, which could result in a more heterogeneous group of responses with fewer "correct" answers.

As with the students, several factors have been identified that would preclude any firm conclusions based on test data obtained from teachers, as follows:

- Pre test data seem to indicate that teachers in either the "workshop/non workshop" or the "public/private" classifications are from different teacher populations,
- The public school teachers were in the middle of extended salary negotiations at the time of post testing,
- The public middle school teachers were in their first year as a separate school and the organizational climate was in a period of flux during their first year of operation, and
- The PTO Factors 2 and 6, were not as closely related to project objectives as had first been thought.

CHAPTER V

EVALUATION REPORT OF

A SCHOOL BASED TOTAL CAREER EDUCATION MODEL EXEMPLARY PROJECT IN VOCATIONAL EDUCATION

Admiral Peary Area Vocational-Technical School
Ebensburg, Pennsylvania

Educational Services, Inc.
WACO, TEXAS
JUNE, 1974

EVALUATION REPORT OF

A SCHOOL BASED TOTAL CAREER EDUCATION MODEL EXEMPLARY PROJECT IN VOCATIONAL EDUCATION

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CHAPTER I

History and Background

The Admiral Peary Area Vocational - Technical School in Ebensburg, Pennsylvania, received funding through Part D of Public Law 90-576 in July, 1973, to implement an exemplary project entitled "Language Experience Based Awareness + Hands On Exploration + Competency Based Preparation = A School Based Total Career Education Model." Administration of the program was assigned to the Research Coordinating Unit which is also administering a curriculum research and development project under Part C discretionary funds.

The project is designed to provide the following results for students:

--Increase the self awareness of each student and stimulate favorable attitudes about the personal, social and economic significance of work.

--Make elementary students aware of the broad range of options open to them in the world of work.

--Provide career orientation and exploratory experience for junior high or middle school students.

--Provide job preparation in a wide variety of occupations to students in grades 10-14, with special emphasis on work experience and cooperative education opportunities.

Admiral Peary Area Vocational - Technical School (APAVTS) offers a variety of courses for students from six area high schools. The first year of the project called for involvement of one public (Central Cambria School District) and one private school system (Holy Name Elementary School and

Bishop Carroll High School). Expansion to the remaining five public school districts was planned for the second and third project year.

Among planned first activities were:

1. Literature searches, identification of useful resource material, pilot testing of material and purchase of materials.
2. Field trips to APAVTS and other locations for elementary and middle school students.
3. Identification and utilization of classroom speakers.
4. Coordination of field trips with classroom activities.
5. Apprenticeship program for ninth grade students, including counseling and hands on experiences at APAVTS.
6. Exposure to career fields for 10 - 12 grade students.
7. Workshops and in-service training for teachers.
8. Establishing Career Resource Centers in each school building and provide appropriate materials.

All elements of this plan of work were explored, at least briefly, during the first project year. However, the sequence of events was not synchronized in some instances. For example, many field trips to APAVTS were conducted for elementary and middle school students which had no connection (prior to or after the event) to classroom activities.

The heavy scheduling of field trips in September, October and November created a number of problems, most of which had been resolved at the time of this report.

CHAPTER II

Evaluation Procedures

Educational Services, Inc. (ESI), of Waco, Texas, was selected to perform independent, third-party evaluation of the project in August, 1973.

The initial visit by evaluators occurred August 22 - 24, 1973. This visit resulted in the preliminary evaluation design and selection of test instruments adequate to support the desired outcomes.

Evaluators met with the project director September 9, 1973, in Pittsburgh, Pennsylvania, to receive results of pre tests administered to faculty members.

The next on site visit occurred November 12 - 16, 1973, when three evaluators visited this project. During this visit, problems related to field trips were discussed and assistance offered to staff members in planning and sequencing activities.

A memo detailing evaluation requirements was discussed with the project director in January, 1974. Plans were made for ESI to secure pre test data as soon as possible. Also in January, ESI arranged for several members of the project staff to visit ongoing career education projects in Syracuse N.Y. Evaluators spent April 15 - 18, 1974, on site. Random samplings of faculty attitudes were acquired and revisions to the original evaluation design were negotiated. Some pre test data was made available.

Final on site visit occurred June 12 - 14, 1974, at which time all data was to be collected by evaluators. However, technical problems prevented this. ESI received final data results in mid-July, 1974, hence the lateness of this report.

In attempting to measure student outcomes, ESI and project personnel experienced difficulty in identifying adequate, reliable test instruments. Some national tests were used, ESI developed some unproved tests and project personnel developed specific tests.

As is common to most career education projects, existing test instruments were not adequate to measure specified outcomes. Other problems were encountered; i.e., contamination of control groups, late transmittal of pre test data.

Every effort has been made to overcome these problems, but they do serve to emphasize the need for better test instruments, by grade levels, relating specifically to career education goals and objectives.

All tests were administered by project personnel and/or classroom teachers with the exception of the random sampling of faculty attitudes conducted by ESI. Data was tabulated and analyzed according to specifications established by project personnel. ESI has extracted necessary data from that provided by the project. In only one instance, scoring and tabulating results of pre and post workshop faculty attitudes, has ESI been given access to actual test instruments or been allowed to tabulate and analyze data independent of project personnel. ESI understands that data analysis was performed in conjunction with Indiana University of Pennsylvania.

The final evaluation design is displayed in Chart I on the following pages.

CHART I

Final Evaluation Design for Career Education Project

(Part D Exemplary)

Admiral Peary Area Vocational-Technical School

Ebensburg, Pennsylvania

ELEMENTARY STUDENTS

VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA C SC
Awareness of family jobs	1. At least 80 percent of elementary students can name and describe the occupation or job of their parents	ESI Career Awareness Questionnaire (248-03) ---------------------- Personal interviews and staff observations	Pre-test Sept., 197 Interview Post-test May, 1974
Awareness of community jobs	2. At least 80 percent of students accurately identify jobs which occur in their schools and communities	ESI Career Awareness Questionnaire (248-03)	Pre-test Sept., 197 Post-test May, 1974
Perceptions of importance and satisfaction with jobs.	3. 80 percent of students indicate belief that all job levels are important 80 percent of students indicate belief that job satisfaction is important.	ESI Elementary Career Awareness Questionnaire (248-03)	Pre-test Sept., 197 Post-test May, 1974

ELEMENTARY STUDENTS

OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
1. At least 80 percent of elementary students can name and describe the occupation or job of their parents	ESI Career Awareness Questionnaire (248-03) Personal interviews and staff observations	Pre-test Sept., 1973 Interview March 1974 Post-test May, 1974
2. At least 80 percent of students accurately identify jobs which occur in their schools and communities	ESI Career Awareness Questionnaire (248-03)	Pre-test Sept., 1973 Post-test May, 1974
3. 80 percent of students indicate belief that all job levels are important 80 percent of students indicate belief that job satisfaction is important.	ESI Elementary Career Awareness Questionnaire (248-03)	Pre-test Sept., 1973 Post-test May, 1974

ELEMENTARY TEACHER OBJECTIVES

VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DA
1. Level of teacher awareness of the Career Education program	1. a. 85 percent of teachers informed about experiences and materials for Career Education	a. ESI Teacher Form (248-01)	Pre tes August- Worksho August, Post te May, 19
	b. 85 percent of teachers understanding basic Career Education goals	b. ESI Teacher Form (248-01)	
	c. 85 percent of teachers were able to describe student objectives	c. ESI Teacher Form (248-01A)	
	d. 85 percent of teachers able to give example relating student objectives to a unit study for their classroom	d. ESI Teacher Form (248-01A)	
2. Level of acceptance of perceived importance of Career Education program	2. a. 35 percent of teachers giving an "important" or "very important" rating to the basic Career Education goals	a. ESI Teacher Form (248-01)	Pre tes August- Worksho August, Post te May, 19
	b. Obtain measurements of teachers feelings about project progress and related activities	b-1 Career Activity Checklist (RCU #13) b-2 ESI 248-010 Faculty Attitudes	January January

ELEMENTARY TEACHER OBJECTIVES

OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
1. a. 85 percent of teachers informed about experiences and materials for Career Education	a. ESI Teacher Form (248-01)	Pre test August-Sept., 1973 Workshop Post test August, 1973
b. 85 percent of teachers understanding basic Career Education goals	b. ESI Teacher Form (248-01)	Post test May, 1974
c. 85 percent of teachers were able to describe student objectives	c. ESI Teacher Form (248-01A)	
d. 85 percent of teachers able to give example relating student objectives to a unit study for their classroom	d. ESI Teacher Form (248-01A)	
2. a. 35 percent of teachers giving an "important" or "very important" rating to the basic Career Education goals	a. ESI Teacher Form (248-01)	Pre test August-Sept., 1973 Workshop Post test August, 1973 Post test May, 1974
b. Obtain measurements of teachers feelings about project progress and related activities	b-1 Career Activity Checklist (RCU #13)	January, 1974
	b-2 ESI 248-010 Faculty Attitudes	January. 1974

EL NTA TE ER EC ES - ont ued

VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DAT
. Teacher perceptions about student improvements via Career Education	3. 80 percent of teachers indicate that their students can significantly increase: a. their motivation in school b. their achievement in school as a result of the Career Education program	Questions J and K ESI 248-01 (revised)	Post tes May, 197
. Level of teacher satisfaction with their own work	4. Teacher satisfaction with their own work will significantly increase during the school year	Use of Purdue teacher Questionnaire concerning morale Factor 2 Factor 6	Pre test August, Post tes May, 197

ECTIVES - Continued

	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
ns reer	3. 80 percent of teachers indicate that their students can significantly increase: a. their motivation in school b. their achievement in school as a result of the Career Education program	Questions J and K ESI 248-01 (revised)	Post test May, 1974
	4. Teacher satisfaction with their own work will significantly increase during the school year	Use of Purdue teacher Questionnaire concerning morale Factor 2 Factor 6	Pre test August, 1973 Post test May, 1974

MIDDLE SCHOOL STUDENTS

VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA
. General career awareness	1. 65 percent of involved 6th, 7th, 8th and 9th grade students will score above the mean of the non-involved group indicating greater career awareness	CMI Factor 2-Compentency Test	Experim groups April,
. Student self-understanding	2. Involved 6th, 7th, 8th, And 9th graders will exhibit more positive attitudinal perceptions than students in non-treatment groups indicating Career Education activities aid in student maturation. 65 percent of involved students will score above the mean for non-involved students	CMI Attitude Scale Factors 1 and 3 - of the Competency Test	Experim groups April,

MIDDLE SCHOOL STUDENTS

OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
1. 65 percent of involved 6th,7th,8th and 9th grade students will score above the mean of the non-involved group indicating greater career awareness	CMI Factor 2-Compentency Test	Experimental and control groups April, 1974
2. Involved 6th,7th,8th, And 9th graders will exhibit more positive attitudinal perceptions than students in non-treatment groups indicating Career Education activities aid in student maturation. 65 percent of involved students will score above the mean for non-involved students	CMI Attitude Scale Factors 1 and 3 - of the Competency Test	Experimental and control groups April, 1974

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VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DAT
3. Decision-making process of students	3. a. 90 percent of 9th graders participating in apprenticeship programs will exhibit positive feelings toward experiences and information gained	Student Apprenticeship Checklist (RCU #05)	Novembe May, 19

		OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
s	3. a.	90 percent of 9th graders participating in apprenticeship programs will exhibit positive feelings toward experiences and information gained	Student Apprenticeship Checklist (RCU #05)	November, 1973 through May, 1974

MI[redacted]E [redacted]DOL[redacted]D [redacted]IOR[redacted]GH[redacted]ACH[redacted]OBJ[redacted]TIV[redacted]

VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DAT
1. Level of teacher awareness of the Career Education program	1. a. 85 percent of teachers informed about experiences and materials for Career Education	ESI Teacher Form (248-01)	Pre Tes August- Worksho August,
	b. 35 percent of teachers understanding basic Career Education goals	ESI Teacher Form (248-01)	Post Te May, 19
2. Level of acceptance of perceived importance of Career Education program	2. a. 35 percent of teachers giving an "important" or "very important" rating to the basic Career Education goals	ESI Teacher Form (248-01)	Pre Tes August- Worksho August,
	b. Obtain measurements of teachers feelings about project progress and related activities	Career Activity check-list (RCU) ESI (248-010) (Faculty attitudes)	January April - April,
3. Level of teacher satisfaction with their own work	3. Teacher satisfaction with their own work will significantly increase during school year	Use of Purdue teacher Opinionnaire concerning morale Factors 2 and 6	Pre tes August, Post te May, 19

MI[redacted]E [redacted]OL[redacted]D [redacted]IOR[redacted]GH [redacted]ACH[redacted]OB[redacted]TIV[redacted]

	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
	1. a. 85 percent of teachers informed about experiences and materials for Career Education	ESI Teacher Form (248-01)	Pre Test August-Sept., 1973 Workshop Post Test August, 1973
	b. 35 percent of teachers understanding basic Career Education goals	ESI Teacher Form (248-01)	Post Test May, 1974
ce r-	2. a. 35 percent of teachers giving an "important" or "very important" rating to the basic Career Education goals	ESI Teacher Form (248-01)	Pre Test August-Sept., 1973 Workshop Post Test August, 1973
	b. Obtain measurements of teachers feelings about project progress and related activities	Career Activity checklist (RCU) ESI (248-010) (Faculty attitudes)	January, 1974 April - High School April, May - Middle School
	3. Teacher satisfaction with their own work will significantly increase during school year	Use of Purdue teacher Opinionnaire concerning morale Factors 2 and 6	Pre test August, 1973 Post test May, 1974

SENIOR HIGH STUDENTS

VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DAT
1. General career awareness experience and attitude	1. 65 percent of those senior high students involved in special career-related learning experiences will score above mean of non-involved students	CMI - all scales	Experim groups, April,
2. Information and experience for self understanding and decision-making in terms of careers	2. Students in grades 9 through 12 participating in special career related learning experiences will indicate greater diversity of source of information than those not participating	CMI Factors 4 and 5 of the competency Test CDQ (H. S. edition) Total score	Experim groups, April,

SENIOR HIGH STUDENTS

		OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
re-	1.	65 percent of those senior high students involved in special career-related learning experiences will score above mean of non-involved students	CMI - all scales	Experimental and control groups, April, 1974
f	2.	Students in grades 9 through 12 participating in special career related learning experiences will indicate greater diversity of source of information than those not participating	CMI Factors 4 and 5 of the competency Test CDQ (H. S. edition) Total score	Experimental and control groups, April, 1974

COM ITY JEC VES

VARIABLE	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DA
1. Level of parental involvement in Career Education program	1. At least 35 percent of parents of elementary students will participate in the Career Education program by at least one of the following: a. classroom presentation about job b. assisting with field trip c. classroom visit d. other	Teacher Project Report Form	Throug school
2. Parental awareness of Career Education concepts	2. More than 35 percent of randomly selected parents of school age children display positive attitudes toward Career Education	ESI 248-01	Decemb
3. Business, community awareness of Career Education concepts	3. More than 35 percent of businessmen will display positive attitudes toward Career Education	ESI 248-01	Decemb

	OBJECTIVE	MEASUREMENT AND/OR OBSERVATION	DATA COLLECTION SCHEDULE
in- er	1. At least 35 percent of parents of elementary students will participate in the Career Education program by at least one of the following: a. classroom presentation about job b. assisting with field trip c. classroom visit d. other	Teacher Project Report Form	Throughout 1973-74 school year
s of	2. More than 35 percent of randomly selected parents of school age children display positive attitudes toward Career Education	ESI 248-01	December, 1973
ty er	3. More than 35 percent of businessmen will display positive attitudes toward Career Education	ESI 248-01	December, 1973

CHAPTER III

Elementary Students

The first year's effort for elementary students was marred by too many nonstructured field trips which resulted in some degree of student confusion and teacher resentment. However, this approach was abandoned. Curriculum units were designed and introduced into the classrooms. Career Resources Centers were established at each elementary school. By the end of the 1973 - 74 school year, negative aspects had disappeared and progress was apparent.

Variable: Awareness of family jobs.

Objective: At least 80 percent of elementary students can name and describe the occupation or job of their parents.

Measurement device was established to be the Elementary Career Awareness Questionnaire which was originally designed by ESI and revised by project staff personnel. (See Chart II.) In support of this testing device, project personnel interviewed randomly selected students to cross-check answers to Questions 5 and 6 with school enrollment records.

Table 1 on the following pages indicates that near the end of the 1973 - 74 school year, 82.5 percent of elementary students could properly describe their fathers' occupations or jobs. It is interesting to note (Table 1) that students not participating in field trips scored slightly higher than those who did.

Students fell below the desired 80 percent level on Question 6, which concerns jobs or occupations of mothers. Many students appeared confused as to whether housewife was considered a job. Again, students not

CHART II

Name______________________
Grade______________________
Date__________ Room______________________

Elementary Career Awareness Questionnaire

1. Does your father work?
______Yes
______No
______I don't know.

2. Does your mother work?
______Yes
______No
______I don't know

3. Do you know what type of work your father does?
______Yes
______No
______I'm not certain

4. Do you know what type of work your mother does?
______Yes
______No
______I'm not certain

5. Name the job which your father has:

____

6. Name the job which your mother has:

____

7. A lot of different jobs are listed below. Look over the list and put a check mark by only those jobs that people who work at your school do.
______a. Insurance salesman
______b. Principal
______c. Maintenance man
______d. Teacher
______e. Janitor
______f. Welder
______g. Radio announcer
______h. Secretary
______i. Cook
______j. Newspaper reporter
______k. Cafeteria worker
______l. Waitress
______m. Auto mechanic
______n. Bus driver
______o. Maid
______p. Teachers' aide
______q. Salesman

8. Many different jobs are listed below. Look over the list and place a check mark by those jobs which people in your town do.

______a. Telephone repairman
______b. Cowboy
______c. Grocer
______d. Druggist
______e. Train conductor
______f. Paper boy/paper girl
______g. Policewoman
______h. Fireman
______i. Farmer
______j. Jet pilot
______k. Television announcer
______l. Dress designer
______m. Hardware and appliance salesman
______n. Architect
______o. Fashion model
______p. TV repairman
______q. Plumber

9. Look at the jobs listed below. Check all the jobs in each group which you think is important.

Group 1.
______a. Doctor
______b. Nurse
______c. Hospital worker
______d. Ambulance driver

Group 2.
______e. Principal
______f. Teacher
______g. Janitor
______h. Secretary

10. People work at many different jobs. Do you think all jobs are important? ______Yes ______No

11. Pick the statement which you believe is true. Put a check mark by that statement. Pick only one statement.

People can be happy only if:

______a. They have a job where they make a lot of money.
______b. They go to college.
______c. They have a job which matches what they can do and like to do.

Table 1

Summary of Results
Elementary Career Awareness Questionnaire

Questions #5 and #6
Comparison of Pre-Test, Post-Test and Personal Interview Answers with Student Personal File

Question #5 - Name the job which your father has:

	10/73				3/74				5/74		
	Pre-Test				Interview				Post-Test		
	Ny	Nt	%		Ny	Nt	%		Ny	Nt	%
Field Trips	25	44	56.8%		35	44	79.5%		36	44	81.8%
Non-Field Trips	25	36	69.4%		30	36	83.3%		30	36	83.3%
Total	50	80	62.5%		65	80	81.3%		66	80	82.5%

Ny = # answers agreeing with information in student file
Nt = # total respondents
% = Ny/Nt

Question #6 - Name the job which your mother has:

	10/73				3/74				5/74		
	Pre-Test				Interview				Post-Test		
	Ny	Nt	%		Ny	Nt	%		Ny	Nt	%
Field Trips	24	44	54.5%		38	44	86.4%		29	15	65.9%
Non-Field Trips	11	36	30.6%		27	36	75.0%		26	36	72.2%
Total	35	80	43.8%		65	80	81.3%		55	80	68.8%

Ny = # answers agreeing with information in student file
Nt = # total respondents
% = Ny/Nt

participating in field trips scored higher and much nearer to desired level than did those students participating in field trips.

By these measurements and observations, this objective was not accomplished completely. Efforts should be made to make students aware that work, jobs and occupations occur in many settings, including the home. Responses to Questions 3 and 4 display essentially the same pattern.

Variable: Awareness of community jobs.

Objective: At least 80 percent of students accurately identify jobs which occur in their schools and communities.

Questions 7 and 8 of the Elementary Career Awareness Questionnaire were designed to reflect data related to this objective. (See Table 2). Students selected school jobs from a list of commonly known occupations. On post-tests, less than 80 percent of all students failed to select maintenance man, secretary and teachers' aides as jobs which occurred in their school. The term, "maintenance man", may not be familiar to elementary students. The utilization of secretaries in elementary school buildings was not verified. However, 90.7 percent of public school students identified this as a school job. Only private school students, on post tests, selected teachers' aides. The extensiveness of aide utilization within the elementary buildings was not verified.

On Question 8, students selected jobs which occurred in their communities (See Table 2) from a list which contained seven jobs which do not occur in the immediate vicinity. Students avoided most of the more exotic job titles, both on pre and post tests. It is interesting to note that most groupings did not select "farmer" to the acceptable level, although the area is surrounded by farms.

Table 2

Elementary Career Awareness Questionnaire

N = 764 (pre-test), N = 747 (post-test)

Question	% Pre	% Post	% Trip	No % Trip	% Public	% Private
1. Does your father work?						
a. Yes	91.5	93.6	92.2	95.1	93.1	95.0
b. No	5.5	2.8	3.5	2.0	3.3	1.5
c. I don't know	1.3	2.4	1.5	.9	1.1	1.5
2. Does your mother work?						
a. Yes	41.6	48.2	45.3	51.4	43.8	60.3
b. No	54.7	49.5	52.4	46.3	54.4	36.2
c. I don't know	2.1	1.2	1.0	1.4	.9	2.0
3. Do you know what type work your father does?						
a. Yes	82.2	86.1	84.9	87.4	87.2	82.9
b. No	9.4	6.4	6.5	6.3	5.8	8.0
c. I'm not certain	6.4	4.4	4.8	4.0	3.8	6.0
4. Do you know what type work your mother does?						
a. Yes	51.8	61.8	63.2	60.3	59.7	67.8
b. No	25.7	16.1	11.3	21.4	17.3	12.6
c. I'm not certain	3.4	1.7	2.0	1.4	1.8	1.5
7. A lot of different jobs are listed below. Look over the list and put a check mark by only those jobs that people who work at your school do.						

Table 2 (continued)

Question	% Pre	% Post	% Trip	No % Trip	% Public	% Private
7. (continued)						
a. Insurance salesman	8.0	4.1	2.5	6.0	3.6	5.5
b. Principal	97.1	99.1	99.5	98.6	98.7	100.0
c. Maintenance man	35.1	43.0	48.9	36.3	40.5	49.7
d. Teacher	97.3	99.5	99.2	99.7	99.3	100.0
e. Janitor	92.4	97.3	98.7	95.7	96.7	99.0
f. Welder	8.2	2.4	1.8	3.1	2.4	2.5
g. Radio announcer	19.6	12.9	11.3	14.6	15.5	5.5
h. Secretary	73.0	70.5	69.0	72.3	90.7	15.1
i. Cook	87.0	88.0	88.7	87.1	89.1	84.9
j. Newspaper reporter	10.5	13.4	16.6	9.7	6.9	31.2
k. Cafeteria worker	95.0	96.9	98.0	95.7	96.7	97.5
l. Waitress	12.2	7.8	7.3	8.3	7.8	7.5
m. Auto mechanic	4.7	2.1	1.8	2.6	1.3	4.5
n. Bus driver	77.6	82.2	77.8	87.1	83.2	79.4
o. Maid	18.5	13.4	13.1	13.7	17.0	3.5
p. Teacher's aide	67.4	71.5	68.5	74.9	68.2	80.4
q. Salesman	11.6	7.5	9.3	5.4	6.6	10.1

Table 2 (continued)

Question	% Pre	% Post	% Trip	No % Trip	% Public	% Private
8. Many different jobs are listed below. Look over the list and place a check mark by those jobs which people in your town do.						
a. Telephone repairman	86.3	95.0	95.0	95.1	94.0	98.0
b. Cowboy	3.7	3.2	3.3	3.1	2.2	6.0
c. Grocer	82.6	92.8	95.0	90.3	91.1	97.5
d. Druggist	70.8	84.9	87.9	81.4	80.3	97.5
e. Train conductor	52.5	64.4	65.0	63.7	61.9	71.4
f. Paper boy/ Paper girl	90.4	94.0	95.2	92.6	92.3	98.5
g. Policewoman	72.4	82.7	86.1	78.9	77.9	96.0
h. Fireman	94.8	97.3	97.5	97.1	96.5	99.5
i. Farmer	54.1	72.6	74.8	70.0	69.7	80.4
j. Jet pilot	23.0	47.0	46.1	48.0	41.8	61.3
k. Television announcer	53.0	68.9	67.3	70.9	62.8	85.9
l. Dress designer	58.1	69.3	68.5	70.3	63.0	86.9
m. Hardware & appliance salesman	75.8	87.4	90.2	84.3	84.1	96.5
n. Architect	54.8	66.3	66.2	66.3	62.8	75.9
o. Fashion model	28.5	40.4	38.3	42.9	33.9	58.3
p. TV repairman	87.3	94.8	95.2	94.3	93.2	99.0
q. Plumber	83.8	91.2	92.9	89.1	88.5	98.5

Table 2 (continued)

Question	% Pre	% Post	% Trip	No % Trip	% Public	% Private
9. Look at the jobs listed below. Check all the jobs in each group which you think are important.						
Group 1:						
a. Doctor	59.0	98.9	98.7	99.1	98.7	99.5
b. Nurse	1.7	96.1	97.2	94.9	95.6	97.5
c. Hospital worker	18.1	90.6	92.9	88.0	89.2	94.5
d. Ambulance driver	21.2	95.7	96.0	95.4	94.9	98.0
Group 2:						
e. Principal	58.2	90.5	92.7	88.0	89.8	92.5
f. Teacher	25.1	93.7	93.2	94.3	93.2	95.0
g. Janitor	8.0	79.8	80.6	78.9	78.8	82.4
h. Secretary	8.6	80.7	83.1	78.0	84.5	70.4
10. People work at many different jobs. Do you think all jobs are important?						
a. Yes	86.0	80.7	80.1	81.4	78.5	86.9
b. No	14.0	19.3	19.9	18.6	21.5	13.1
11. Pick the statement which you believe is true. Put a check mark by that statement. Pick only one statement.						
People can be happy only if:						
a. They have a job where they make a lot of money.	35.7	25.4	23.7	27.4	29.0	15.6
b. They go to college.	9.6	5.6	4.3	7.1	5.7	5.5
c. They have a job which matches what they can do and like to do.	68.9	68.9	72.0	65.4	65.3	78.9

Data manipulation beyond pre and post test was designed by project staff in an attempt to detect significant differences between field trip versus no field trip, as well as between public school and non public school students. A few isolated incidents did occur, for example 31.2 percent of private school students versus 6.9 percent of public school students indicated that newspaper reporter was a job which occurred in their school. Although such variances were noted, no consistent pattern could be detected.

Overall, ESI feels this objective was achieved and that elementary students are aware of jobs which occur in their schools and communities.

Variable: Perceptions of importance and satisfaction with jobs.

Objective: 80 percent of students indicate belief that all job levels are important.

Questions 9 and 10 were designed to gather data related to this objective. (See Table 2). Question 9 asked students to select all important jobs in two career groupings, health and education. Post-tests results were extremely satisfying in the health careers groupings. Results were acceptable in the education grouping.

In response to Question 10 concerning importance of all work, regression occurred on post-tests. Still, the desired 80 percent overall indicated that they attached importance to all work.

ESI feels this objective was accomplished.

Variable: Perceptions of importance and satisfaction with jobs.

Objective: 80 percent of students indicate belief that job satisfaction is important.

Question 11 of the Elementary Career Awareness Questionnaire asked students to complete the phrase "People can be happy only if:" Less than

70 percent overall selected the proper response, "they have a job which matches what they can do and like to do." The only group which approached the desired response level was private school students. Results are displayed in Table 2.

ESI feels this objective was not accomplished and certain program revisions are necessary if students are to grasp this basic concept of career education.

In reviewing the first year of the elementary segment of the career education project, one serious mistake was made, but that has now been corrected. The mistake involved an over-emphasis on field trips with little or no provision made for followup study and discussion in classrooms.

The field trip approach was developed in this manner: each elementary class would go on a field trip about once every six weeks to the Admiral Peary Area Vocational-Technical School. The classes would go as individual classes, usually numbering about 40 students. The teacher, the elementary coordinator, and some parents also would go.

The area to be visited at the school would be determined by the elementary coordinator.

Ideally, the field trip program over the year would have exposed each student to 28 areas of work. However, when the field trip approach was abandoned after four to five months, the average participating class had been on three trips, and had been exposed to only three work areas.

Because of lack of information, resources and overall coordination, there were no provisions for followup study and discussion in the classroom. A teacher whose class had visited a welding area at the vocational-technical school, for example, would return to the classroom to find there was nothing to help the class understand how what it had seen fits into the overall scheme of jobs and life.

Teachers had practically no input into the scheduling of field trips or the specific area to be visited at the vocational-technical school.

Visits only to the vocational-technical school created a dependence on the school, became a serious bother to teachers and students at the school, and gave visiting students a misleading view of the world of work.

Massive, wholesale visits to different areas at the vocational-technical school not only proved to be of little or no benefit to visiting students, but they actually proved to be detrimental in some cases because they confused the students. Although individual students did not make very many visits themselves, they were constantly hearing from their friends about trips they had made.

Under the original career education plan, two teachers at each grade level in Central Cambria and Holy Name elementary schools participated in the career education activities--or, as it were, in the field trips. Their classes represented about 40 percent of the total elementary enrollment.

The field trip approach was selected because it would expose teachers to what was actually going on in the world of work and thus would better prepare them for the preparation and presentation of curriculums.

However, it soon became obvious that the field trips were at best a waste of time and at worst a source of great confusion to students, and perhaps even to teachers. During an on-site visit with career education staff, ESI evaluators suggested a moratorium on field trips during which the staff could expose themselves to other career education programs and apply their observations to re-directing their own program.

This was done. After visits to the career education project in Syracuse, N.Y., and to others nearer to the Ebensburg area, the elementary coordinator prepared specific objectives and curriculum packets to support those objectives for elementary teachers. The objectives related to family, school and community jobs, with grades four and five directed toward awareness of job clusters.

After a period of travel, review and preparation of classroom resource material, activities were resumed near the end of March, with these major alterations:

--The program was opened to all interested elementary teachers, resulting eventually in the participation of approximately 90 percent of the teachers.

--A limit was placed on field trips to the vocational-technical school, and arrangements and selection of areas to be visited were left to individual teachers. This change resulted in trips that were more relevent to areas being studied by classes.

--Trips to other work areas in the community were encouraged--in order to give students a broader view of the world of work. Teachers also were encouraged to bring in representatives of business and industry for classroom speeches and demonstrations.

In assessing the first year of the career education project, ESI has these observations:

1. Although much time was wasted during the merry-go-round period of blind and massive field trips, both staff and teachers benefited to some degree by learning that this approach was not the appropriate one; in other words, they learned better how to implement the program by learning how not to implement it.

2. The value of having career resource materials readily available to teachers was discovered, and steps were taken to stock career resource centers and bring them rapidly into operation.

3. With initial problems solved and misunderstandings settled, cooperation from teachers, parents and representatives of business and industry has been excellent.

CHAPTER IV

Junior High and Middle School Students

This segment of the project actually followed two distinct patterns with one pattern involving students in grades 6 - 8 and the other pattern designed for ninth graders.

In the early months, students in grades 6 - 8 went through field trip experiences very similar to those of elementary children, as described in Chapter III. For clarity, this report will refer to these activities as middle school. The two middle school coordinates were responsible for all scheduling and coordination of field trips to APAVTS.

No pre or post activities were planned for classrooms in relationship to the field trip schedule and no classroom tie existed. During the first three months of the 1973-74 school year, 21 class trips were made by 410 middle school students.

This approach was abandoned after all available evidence indicated this was not a practical way to implement career education concepts. Program emphasis has changed to Career Resource Centers where the two coordinators can work with small groups of students and faculty members.

Teachers are being encouraged to develop specific units and tie only anticipated field trips directly to classroom work.

The Career Resource Centers actually opened in May, providing about two weeks operation for the 1973-74 school year.

The ninth grade effort centered around an apprenticeship program where ninth grade students actually spent one week at APAVTS in a course area selected by them. They received hands on experience in their areas of special interest and were supervised and evaluated by teachers and journeymen (older students).

This program served 151 students during the 1973-74 school year.

Variable: General career awareness.

Objective: 65 percent of involved (treatment) 6th, 7th, 8th and 9th graders will score above the mean of the noninvolved (control) group indicating greater career awareness.

This objective was measured with Factor 2 of the Career Maturity Inventory which was selected by project staff members. Some contamination occurred, although the evaluation design called for control and treatment groups.

Results of data analysis are displayed in Table 3. In only two instances did treatment group students, either public or private, exceed the mean established by control students. In comparing treatment and control means with national means, students scored well above national means. The one exception is eighth grade students in private schools. It should be noted on Chart III that sample sizes are small.

Although national means were met and exceeded, no evidence is found that students participating in career education activities possessed more knowledge concerning occupational information than non-participating students.

ESI does not believe this objective was accomplished.

Variable: Student self-understanding.

Objective: Involved 6th, 7th, 8th and 9th grade students will exhibit more positive attitudinal perceptions than students in non-treatment

Table 3

Analysis of Data Results (Means)
On Factor 2
Career Maturity Inventory

	6th Grade		7th Grade		8th Grade	
	T*	C*	T*	C*	T*	C*
Public Schools	11.6	11.0	12.7	12.1	13.6	14.7
Private Schools	11.9	12.0	12.4	13.1	11.8	13.6
National	8.94	xx	10.23	xx	11.59	xx

T = Treatment (selected on basis of students who visited three or more course areas)

C = Control (selected on basis of students who visited two or less course areas [pri or no course areas [public schools]).

Table 3

Analysis of Data Results (Means)
On Factor 2
Career Maturity Inventory

	6th Grade		7th Grade		8th Grade		9th Grade	
	T*	C*	T*	C*	T*	C*	T*	C*
	11.6	11.0	12.7	12.1	13.6	14.7	12.6	14.6
	11.9	12.0	12.4	13.1	11.8	13.6	14.2	14.5
	8.94	xx	10.23	xx	11.59	xx	11.35	xx

selected on basis of students who visited three or more course areas)

lected on basis of students who visited two or less course areas [private schools]
e areas [public schools]).

CHART III

CMI Part D
Administered 4/16-4/19/74

GRADE	% PARTICIPANTS (Experimental)	% NONPARTICIPANTS (Control)	% PARTICIPANTS (Experimental)	% NONPARTICIPANTS (Control)
6	13	11	9	10
7	15	13	10	11
8	12	13	10	10
9	11	9	5	4
10	11	10	0	17
11	10	13	0	15
12	8	9	7	10
Total	80	78	41	77

GRAND TOTAL 276

(control) groups--indicating career education activities and student maturation. Sixty-five percent of involved students will score above the mean for noninvolved students.

Measurement of this objective was also drawn from the Career Maturity Inventory, utilizing Factors 1, 3 and the Attitude Scale. Factor 1 measures self-appraisal and Factor 3 measures goal selection. The Attitude Scale deals with attitudes towards work and responsibility. Results of testing of treatment and control groups from public and private schools are displayed in Table 4.

In only one segment (sixth grade) of Factor 1 did treatment group mean exceed that of the control group. In reviewing data on Factor 3, only one instance of a higher mean among treatment students is noted. On the attitude scale, one mean score was greater and one was equal to that of the control group.

Results in comparison to national means were spotty and no definitive pattern emerges. Small sample sizes (displayed in Chart III) may account for this. However, ESI has not worked with the Career Maturity Inventory before and would be hesitant to make assumptions concerning data results.

It is obvious that this objective has not been achieved.

Variable: Decision-making process of students.

Objective: 90 percent of 9th graders participating in apprenticeship programs will exhibit positive feelings toward experiences and information gained.

Measurement of this objective was drawn by using the Student Apprenticeship checklist which was developed by project staff members. This

Table 4

Analysis of Data Results (Means) On Factors 1, 3 & Attitude Scale Career Maturity Inventory

	6th Grade		7th Grade		8th Grade	
	T*	C*	T*	C*	T*	C*
Factor 1						
Public	9.6	8.8	9.9	10.1	10.7	12.1
Private	9.4	11.7	9.9	10.5	9.6	11.3
National	8.34	xx	10.36	xx	10.97	xx
Factor 3						
Public	10.1	10.5	10.4	9.8	10.8	11.5
Private	8.3	11.1	10.4	11.2	10.8	11.1
National	9.32	xx	10.51	xx	10.59	xx
Attitude Scale						
Public	27.6	30.7	29.6	33.2	31.8	31.8
Private	30.7	33.4	29.9	34.0	33.1	35.6
National	28.12	xx	29.21	xx	32.84	xx

* - See Table 3

Table 4

Analysis of Data Results (Means) On Factors 1, 3 & Attitude Scale Career Maturity Inventory

6th Grade		7th Grade		8th Grade		9th Grade	
T*	C*	T*	C*	T*	C*	T*	C*
9.6	8.8	9.9	10.1	10.7	12.1	9.7	11.9
9.4	11.7	9.9	10.5	9.6	11.3	11.8	11.8
8.34	xx	10.36	xx	10.97	xx	11.09	xx
10.1	10.5	10.4	9.8	10.8	11.5	10.5	12.0
8.3	11.1	10.4	11.2	10.8	11.1	9.8	11.8
9.32	xx	10.51	xx	10.59	xx	10.13	xx
27.6	30.7	29.6	33.2	31.8	31.8	34.3	35.6
30.7	33.4	29.9	34.0	33.1	35.6	35.4	31.3
28.12	xx	29.21	xx	32.84	xx	34.29	xx

checklist offered a five point scale response opportunity (1 = strongly disagree, 5 = strongly agree) for students to answer eight statements concerning their experiences in the apprenticeship program. Statements involved interest, job skills, career plans, understanding ability and decision making.

Data necessary for computing overall percentage of favorable responses were not made available to ESI. However, project staff did score all response and compute the average, which was 4.2. This indicates that the overwhelming majority of students did feel positively toward their experiences and information. This objective was achieved.

Although two of three objectives were not met, ESI believes the middle school program will gain from mistakes of the 1973-74 school year. The apprenticeship program for ninth graders is probably the most innovative, well-conceived and well-administered part of the entire project and should be continued and expanded.

CHAPTER V

High School Students

Programs for high school grade levels were designed to produce new ideas that would result in projects involving students in actual experiences. The projects ideally would become ongoing ones and would result in "spinoff" that would develop into related but separate projects.

The discussion of the first year of the career education project at this level, then, becomes primarily a discussion of individual projects and their results. The projects to be discussed are listed in their order of importance, success or interest, based on the judgment of the evaluation interviewer.

1. Sculpture project. --Several projects involving various aspects of art were developed on the theory that art courses, art appreciation courses and art-related courses touch more high school students than do other types of courses.

The largest of these projects involved the design, construction and mounting of a giant sculpture in the foyer of the Central Cambria high school. In the beginning, students were encouraged to submit designs for a sculpture that would illustrate the theme or role of the Central Cambria school.

Some students submitted drawings, others submitted drawings supported by paper and plastic miniature models. A professional artist, who is a sculptor and a university professor, was hired to oversee the project, and teachers and administrators were recruited to help in the processing of designs and in the selection of the most appropriate one.

Once a design had been chosen, art students and drafting and design students from the APAVTS were enlisted to make sketches and mechanical drawings of the design and to perform all other tasks necessary in planning the actual creation of the metal sculpture.

The aid of business and industry was enlisted in donation of materials necessary for the sculpture and in transportation of those materials. Students themselves, under the supervision of teachers and the professional consultant, then created the actual sculpture and mounted it in the foyer of the school.

In addition to drafting and design and art students, other students also participated in the dedication of the statue, which was witnessed by all of the students. For instance, modern dance students created a special dance for the dedication, and speech students presided over the ceremony.

Approximately 250 students were actually involved in active roles in the project, which continued for several weeks, and many more felt a strong sense of involvement through observation.

2. Militia Day. --One of the more exciting and potentially far-reaching projects was a Militia Day held at APAVTS in April, 1974. Representatives of area Army Reserve and National Guard units spent a day acquainting area students with military equipment and job descriptions as the first step in what will perhaps become an ongoing program.

In general terms, the purpose of the program is to show students how civilian job skills, as spelled out in the Dictionary of Occupational Titles (DOT) of the U.S. Department of Labor, relate to military job skills, as spelled out in Military Occupational Speciality (MOS) codes of the military.

There are several potential benefits of such a project:

--Students still in school could begin to prepare for military jobs, which could lessen the time and effort required of the military to prepare servicemen to fill jobs.

--Students could return from active duty to military reserve units, thereby creating a supplemental income to their civilian salaries.

--Military officials participating in the project could investigate the opportunities of altering certain military training programs so that they produce workers with skills even more adaptable to civilian job requirements.

The Militia Day project received careful review and evaluation from representatives of the schools involved and from representatives of the military reserve units and associations involved.

3. Poster Contest. --A career education poster contest was initiated as a project both for students involved in art courses and for other interested students. This project, which also extended for several weeks, not only resulted in such "spinoff" as high school students inviting elementary students into the contest, and teaching them such sophisticated techniques of art as silk screening, but also developed into a summer project involving students of all levels working in various projects financed by federal money from sources other than the career education project.

4. Union Project. --Four area unions were invited to participate in some area of the career education project.

From the four invitations, one response was received. A local plumbers and pipefitters union indicated a willingness to participate. After much consultation and planning, the result was a trip for six students (one from each of the schools that sends students to APAVTS) to the Pittsburgh area. The students not only visited some industries, they spent an evening in a labor union instruction class. Students not only received exposure to opportunities of a career in organized labor, but also received "field trip" type benefits from the trip.

This project resulted in a very tangible "spinoff": the plumbers and pipefitters union donated $1,000.00 to APAVTS for career resource materials related to organized labor.

5. Minicourse. --Several students participated in a minicourse related to environmental science. Working as small teams, the students used laboratory facilities at APAVTS to conduct research and experiments in various projects. Students wrote reports at the completion of the minicourse, and supervisors completed checklists of skills developed by the students.

This project, as did several others, involved efforts and funds from career education project people and from other area sources.

6. Other. --A few other students became involved in various work study and cooperative education projects involving part-time work in business and some exchange of student workers between participating schools. These projects involved students in business-clerical oriented studies, such as data processing and keypunch. Some students also received special training to prepare them for summer jobs as cash register operators in grocery stores.

In assessing results of the first year of the career education project at the high school level, ESI has these observations:

--Cooperation and interest of the various elements of the community were high, and should increase as the project continues and gathers more momentum.

--Students benefited from this approach because they actually became involved in real projects.

Variable: General career awareness experience and attitude.

Objective: 65 percent of those senior high school students involved in special career-related learning experiences with score above mean on noninvolved students.

All factors of the Career Maturity Inventory, including the attitude scale, were selected for measurement of this objective. Results of data analysis in terms of mean scores are displayed in Table 5. It should be noted that no treatment groups were tested in private schools.

In 10th grade, treatment students did not score as well as control students, although they did reach or exceed the national mean.

Treatment students in 11th grade exceeded the mean of control students on four of five factors, as well as the attitude scale. This group also exceeded national norms.

Treatment students in 12th grade exceeded the mean of control students on three factors. On the attitude scale and two factors, the treatment group did not score to national or control mean.

Sample sizes were small and criteria for treatment and control definition were not distinct.

However, ESI feels these results indicate this objective was not achieved.

Table 5

Analysis of Data Results (Means)
All Factors for 10th - 12th Grades
Career Maturity Inventory

	Grade 10		Grade 11		Grade 12	
	T*	C*	T*	C*	T*	C*
Factor 1						
Public	12.1	13.9	13.9	12.7	11.6	13.4
Private	xx	13.6	xx	15.3	13.5	16.3
National	12.06	xx	13.63	xx	14.15	xx
Factor 2						
Public	14.5	16.4	17.7	15.1	17.3	17.0
Private	xx	16.4	xx	17.1	18.2	19.1
National	12.23	xx	13.79	xx	14.43	xx
Factor 3						
Public	11.0	12.8	13.3	12.4	14.4	13.8
Private	xx	12.6	xx	15.1	16.3	15.4
National	11.12	xx	12.74	xx	12.90	xx
Factor 4						
Public	9.8	13.9	13.2	13.1	14.4	13.3
Private	xx	14.2	xx	16.1	16.9	17.4
National	9.86	xx	11.08	xx	11.89	xx
Factor 5						
Public	8.1	9.5	10.8	11.4	10.9	12.7
Private	xx	10.9	xx	13.5	14.8	13.9
National	7.54	xx	8.96	xx	9.50	xx

Table 5 (Continued)

	Grade 10		Grade 11		Grade 12	
	T*	C*	T*	C*	T*	C*
Attitude Scale						
Public	33.2	35.7	37.1	36.7	33.8	38.1
Private	xx	35.2	xx	37.9	40.5	42.4
National	35.31	xx	36.02	xx	37.23	xx

* T = Treatment (Select from those students who participated in various small projects sponsored by project).

* C = Control (Select from those students with no participation in career education activities).

Variable: Information and experience for self-understanding and decision making in terms of careers.

Objective: Students in grades nine through 12 participating in special career related learning experiences will indicate greater diversity of source of information than those not participating.

Factors 4 and 5, relating to planning and problem solving, of the Career Maturity Inventory were selected as one measurement device for this objective. Referring to Tables 5 and 6, it is apparent that only in isolated instances did treatment students exceed the mean established by control students.

Table 6

Analysis of Data Results (Means)
Factors 4 and 5 for 9th Grades
Career Maturity Inventory

	9th Grade	
	T*	C*
Factor 4 Public	10.1	9.9
Private	10.8	10.3
National	8.46	xx
Factor 5 Public	7.5	9.2
Private	10.0	10.3
National	7.16	xx

The second measurement technique selected was the Career Decision Questionnaire designed by the project staff. This instrument displayed 34 statements concerning information sources and utilization to which students responded. Results are displayed in Table 7. Although the evaluation design calls for use of total scores, ESI was provided data concerning means by grade levels.

In reviewing the data, it should be noted that a perfect response pattern to the instrument would provide a score of 65. It is interesting to note that higher mean scores are registered by treatment group ninth graders than any other group. Ninth and 12th grade treatment groups scored slightly higher means than control groups, but the other two treatment groups fell below the control mean. Overall means display no difference in the groups.

Based on these measurements, ESI does not feel this objective was achieved.

Table 7

Data Results (Means)
Career Decision Questionnaire

	Treatment		Control	
Grade	n		n	
9th	16	38.25	12	36.67
10th	11	36.27	23	37.91
11th	10	34.90	28	37.50
12th	14	36.29	19	33.74
Overall	51	36.63	82	36.62

CHAPTER VI

Faculties and Community

Due to specifications of the evaluation design, this chapter will be presented with three subsections to deal with elementary teachers, middle and high school teachers and the community.

A. Elementary Teachers -

Variable: Level of teacher awareness of career education program.

Objectives: 85 percent of teachers informed about experiences and materials for Career Education. 85 percent of teachers understand basic Career Education goals. 85 percent of teachers able to describe student objectives. 85 percent of teachers able to give example relating student objectives to a unit study for their classroom.

Measurement of the first two objectives was drawn from the ESI Teacher Form which was administered pre and post in connection with a workshop held August, 1973, and administered again in May, 1974.

Results are displayed in Table 8. It will be noticed that no separation by grade grouping is displayed. Data on pre-post workshop results, which were tabulated by ESI, are available. However, data gathered, tabulated and manipulated by the project staff are not usable for necessary comparisons by grade groupings as required by the evaluation design. The extent of statistical analysis performed on this data has made some of the needed information difficult to perceive. Table 8 displays overall mean scores for workshop participants (pre-post) and overall mean scores for 108 faculty members, obtained at an undetermined time.

Table 8

Mean Responses of Elementary Teachers Information Form

Question	Desired Response	Pre-Workshop Mean	Post-Works Mean
A. Career education is an essential part of education and every child should receive such education.	1	1.35	1.16
B. Elementary school pupils less likely to pursue professional careers should receive special career education, while other students should continue in current educational processes.	5	2.82	3.77
C. Any career education is best treated in a unique subject area in elementary education such as math or social studies in order that the important concepts of career development and "world of work" receive special attention.	5	2.62	3.12
D. Current education does not include sufficient emphasis on career development and the relationship between education and work.	1	1.50	1.32

Table 8

Mean Responses of Elementary Teachers
Information Form

	Desired Response	Pre-Workshop Mean	Post-Workshop Mean	Overall Mean (108 Teachers)
n is an essential on and every child such education.	1	1.35	1.16	1.84
ol pupils less likely ssional careers should career education, dents should continue ational processes.	5	2.82	3.77	3.13
ation is best treated ject area in elementary as math or social r that the important eer development and receive special	5	2.62	3.12	2.98
on does not include asis on career the relationship on and work.	1	1.50	1.32	2.23

Table 8 (continued)

Question	Desired Response	Pre-Workshop Mean	Post-Worksho Mean
E. The basic function of elementary education is to prepare students for college-oriented junior and senior high school education.	5	3.54	4.34
F. Most teachers currently have the experience, information techniques and resources to help students understand the relationship between academic experiences and occupational success.	5	4.80	3.42
G. Students currently are able to understand the relationships between skills developed in elementary grades and the later pursuit of careers. No curriculum changes are needed.	5	4.45	4.55
H. While professional careers requiring college education are desirable for those students with sufficient interest and ability, many students will not pursue a professional career and need information and skills necessary for pursuing other careers.	1	1.58	1.30

Table 8 (continued)

	Desired Response	Pre-Workshop Mean	Post-Workshop Mean	Overall Mean (108 Teachers)
n of elementary repare students ted junior and l education.	5	3.54	4.34	2.44
rently have the mation techniques help students lationship between ces and occupational	5	4.80	3.42	2.92
y are able to lationships between in elementary ter pursuit of iculum changes are	5	4.45	4.55	2.06
l careers requiring are desirable s with sufficient ity, many students professional nformation and skills suing other careers.	1	1.58	1.30	1.42

Table 8 (continued)

Question	Desired Response	Pre-Workshop Mean	Post-Works Mean
I. Elementary education is basically a time for individual pupil skill development and self-awareness. Therefore, information about occupations and related skills are best taught in junior and senior high school.	5	3.21	3.59

Table 8 (continued)

	Desired Response	Pre-Workshop Mean	Post-Workshop Mean	Overall Mean (108 Teachers)
tion is basically idual pupil skill self-awareness. nation about related skills are unior and senior	5	3.21	3.59	2.58

Although post workshop scores generally showed desired gains, regression occurred in every instance of the last testing effort. It is impossible with data furnished to reach conclusions concerning the first two objectives.

The last two objectives for elementary teachers can be measured. Results of administering two questions concerning career education objectives are displayed in Table 9. Data show these objectives were not achieved.

Variable: Level of acceptance of perceived importance of Career Education program.

Objectives: 35 percent of teachers giving an "important" or "very important" rating to the basic Career Education goals. Obtain measurements of teachers' feelings about project progress and related activities.

The first and second objective was to have been measured with the ESI Information Form. No conclusions can be drawn, as previously explained in this chapter. Also used as measurement of the second objective was the Career Activity Checklist developed by the project staff. Results of this show that teachers have been consulted concerning project activities and that program revisions are occurring in line with these suggestions. This measurement device indicates that the second objective is being achieved.

Variable: Teacher perceptions about student improvements via Career Education.

Objective: 80 percent of teachers indicate that their students can significantly increase: a. their motivation in school; b. their achievement in school as a result of the Career Education program.

Table 9

Summary of Results
ESI-248-01A Career Education Information Form
Listing of Career Education Objectives

	Workshop		Non-Workshop		Total	
Question 1	N	%	N	%	N	%
Public	7/13	53.8%	0/8	0.0%	7/21	33.3%
Private	5/5	100.0%	4/4	100.0%	9/9	100.0%
Total	12/18	66.7%	4/12	33.3%	16/30	53.3%

	Workshop		Non-Workshop		Total	
Question 2	N	%	N	%	N	%
Public	6/13	46.2%	0/8	0.0%	6/21	28.4%
Private	5/5	100.0%	4/4	100.0%	9/9	100.0%
Total	11/18	61.1%	4/12	33.3%	15/30	50.0%

$$N = \frac{\#\text{ teachers listing objectives satisfactorily}}{\text{total }\#\text{ respondents}}$$

Two questions concerning student motivation and achievement as related to career education were added to the ESI Information Form before it was administered in May, 1974. Although a great number of computer printouts related to this one form were forwarded to ESI, our data analysts have not been able to extract data which reflect on this objective.

Variable: Level of teacher satisfaction with their own work.

Objective: Teacher satisfaction with their own work will significantly increase during the school year.

Two items of the Purdue Teacher Opinionnaire were selected for pre and post test measurement. Pre-tests were administered in August, 1973, and post-tests were administered in May, 1974.

Results are displayed in Table 10. Item 2 shows a slight regression in areas concerning "satisfaction with teaching." Item 6 shows gains in areas concerning "curriculum issues."

The objective calls for significant increase. ESI does not feel significant increase has occurred or that this objective has been achieved.

Table 10

Analysis of Items 2 & 6
Purdue Teacher Opinionnaire

Item 2

	PRE		POST		DIFFERENCE	
	Median Rating	%tile	Median Rating	%tile	Median Rating	%tile
Overall Elementary Teachers	3.64	35	3.61	27	-.03	-08

Item 6

	PRE		POST		DIFFERENCE	
	Median Rating	%tile	Median Rating	%tile	Median Rating	%tile
Overall Elementary Teachers	2.89	29	3.05	46	+.16	+17

B. Middle School and High School Teachers -

Variable: Level of teacher awareness of the Career Education program.

Objectives: 85 percent of teachers informed about experiences and materials for Career Education. 35 percent of teachers understanding basic Career Education goals.

For measurement, the ESI Information Form was used. Results are displayed in Table 8.

As previously stated, no conclusions can be drawn.

Variable: Level of acceptance of perceived importance of Career Education program.

Objective: 35 percent of teachers giving an "important" or "very important" rating to the basic Career Education goals. Obtain measurements of teachers' feelings about project progress and related activities.

These objectives were to be measured by ESI Information Form. Also to be used was the Career Activity Checklist. Teachers have responded to this checklist, indicating their perceptions and concerns. This portion of the objective has been accomplished.

Variable: Level of teacher satisfaction with their own work.

Objective: Teacher satisfaction with their own work will significantly increase during school year.

Two items of the Purdue Teacher Opinionnaire were used for pre and post measurements, with the same schedule as that detailed for elementary teachers.

Results are displayed in Table 11. As with elementary teachers, results are contradictory, and ESI does not believe this objective has been achieved.

Table 11

Analysis of Items 2 & 6
Purdue Teacher Opinionnaire

Item 2

	PRE		POST		DIFFERENCE	
	Median Rating	%tile	Median Rating	%tile	Median Rating	%tile
Overall Middle School	3.62	62	3.52	34	-.10	-28
Overall High School	3.49	27	3.33	11	-.16	-16

Item 6

	PRE		POST		DIFFERENCE	
	Median Rating	%tile	Median Rating	%tile	Median Rating	%tile
Overall Middle School	2.75	38	2.89	49	+.14	+11
Overall High School	2.83	41	2.85	44	+.02	+03

C. Parents and Community -

Variable: Level of parental involvement in Career Education program.

Objective: At least 35 percent of parents of elementary students will participate in the Career Education program by at least one of the following: (a) classroom presentation about job; (b) assisting with field trip; (c) classroom visit; (d) other.

Teachers' project report forms showed that total parents involved at the elementary level represented 27.8 percent. This objective was not achieved.

Variable: Parental awareness of Career Education concepts.

Objective: More than 35 percent of randomly selected parents of school age children display positive attitudes toward Career Education.

Variable: Business, community awareness of Career Education concepts.

Objective: More than 35 percent of businessmen will display positive attitudes toward Career Education.

These objectives are essentially the same and were measured with the ESI Information Form. Results are displayed in Table 12.

On seven of the nine questions, parents and businessmen exhibited good attitudes toward concepts of career education. These objectives have been achieved.

Table 12

Mean Responses of Parents and Businessmen Information Form

Question	Desired Response	Parental Mean
A. Career education is an essential part of education and every child should receive such education.	1	1.38
B. Elementary school pupils less likely to pursue professional careers should receive special career education, while other students should continue in current educational processes.	5	3.45
C. Any career education is best treated in a unique subject area in elementary education such as math or social studies in order that the important concepts of career development and "world of work" receive special attention.	5	3.70
D. Current education does not include sufficient emphasis on career development and the relationship between education and work.	1	1.94
E. The basic function of elementary education is to prepare students for college-oriented junior and senior high school education.	5	3.30
F. Most teachers currently have the experience, information techniques and resources to help students understand the relationship between academic experiences and occupational success.	5	2.53

Table 12

Mean Responses of Parents and Businessmen Information Form

	Desired Response	Parental Mean	Businessmen's Mean
is an essential part of ery child should receive such	1	1.38	1.76
l pupils less likely to pursue eers should receive special , while other students should ent educational processes.	5	3.45	3.90
tion is best treated in a unique elementary education such as tudies in order that the impor- career development and "world special attention.	5	3.70	3.94
a does not include sufficient er development and the relation- cation and work.	1	1.94	1.40
on of elementary education is to for college-oriented junior and l education.	5	3.30	3.67
rently have the experience, iques and resources to help nd the relationship between ces and occupational success.	5	2.53	2.50

Table 12 (continued)

Question	Desired Response	Parental Mean
G. Students currently are able to understand the relationships between skills developed in elementary grades and the later pursuit of careers. No curriculum changes are needed.	5	1.87
H. While professional careers requiring college education are desirable for those students with sufficient interest and ability, many students will not pursue a professional career and need information and skills necessary for pursuing other careers.	1	1.17
I. Elementary education is basically a time for individual pupil skill development and self-awareness. Therefore, information about occupations and related skills are best taught in junior and senior high school.	5	3.85

Table 12 (continued)

	Desired Response	Parental Mean	Businessmen's Mean
are able to understand the een skills developed in elemen- later pursuit of careers. No are needed.	5	1.87	1.86
careers requiring college table for those students with and ability, many students rofessional career and need lls necessary for pursuing other	1	1.17	1.19
n is basically a time for ill development and self-aware- nformation about occupations are best taught in junior and	5	3.85	4.10

CHAPTER VII

Conclusions and Recommendations

Problems occurred during the first year of the Career Education project at the Admiral Peary Area Vocational-Technical School. However, many of these problems were detected promptly and actions taken to strengthen and reinforce the overall project. This viability is healthy, and the outcomes from the mistakes that were made during the first year should ensure better results for the second and third years.

The ability of the project staff to identify mistakes, pinpoint exact areas where problems were occurring, and react positively to these situations is to be commended. Extremely positive signs were evidenced during the last full month of the 1973 - 74 school year, when new approaches to implementation of the career education project were being utilized in elementary and middle school program components. These should be building blocks for activities of the second and third years.

ESI feels that the programs for elementary and middle school students need to involve the community more in exposure to the various career fields. This will expand students' experiences beyond those at Admiral Peary Area Vocational-Technical School. This is not to imply that field trips to the vocational-technical school should be discontinued. However, other field trips into various industries and businesses in the community are desirable.

As evidenced by both observations and data, no field trips snould occur without proper and well-planned classroom support activity.

Better distribution should be made of staff personnel, and active program participation by the project director should be increased.

An overall curriculum scope and sequence, grades K - 12, should be established for all materials related to the career education concept. This would make planning on the part of teachers much more orderly and would ensure a continuous flow of information, without duplication to students. If possible, the project staff should attempt to establish better methods for obtaining informal feedback information from teachers and students over and above any necessary standardized test or data gathering instruments.

Concerning testing, ESI recommends that every effort be made to keep testing requirements and paperwork at a minimum. Much more data was obtained from the first year of the project than was necessary, and ESI suggests that some thought be given to reducing the large amount of data being collected in deference to the work loads of the classroom teachers and the work load of the project staff.

Although the original proposal for funding called for expansion to the remaining five school districts in the second year, ESI suggests that the project staff and the administrators of Admiral Peary Area Vocational-Technical School give careful consideration to this planned expansion. This recommendation is made in light of certain inadequacies detected during the first year of the project and the fact that funding for the second year has been severely reduced. ESI feels that the only program which could be transported to all school districts is the ninth grade apprenticeship program. However, even this program would require a time committment by the project staff in working with counselors and appropriate personnel from the five participating school districts. ESI feels that the second year of the project should be devoted to a refinement of resources and techniques identified and pilot-tested in the last month of the 1973 - 74 school year for elementary and middle school students.

The curriculum resource center for senior high school students should be opened with the beginning of the 1974 - 75 school year. Hopefully, this will give more cohesiveness to the senior high program components.

In-service workshops, organized by appropriate grade groupings, should be led by project coordinators and should contain "how to" information on techniques, methods, media, materials and strategies. These in-service workshops should be held as early in the 1974 - 75 school year as possible.

These are the major recommendations offered by ESI evaluators, after taking into account all factors affecting the first year of the career education project.

ESI evaluators have been aided in their work by Dr. Bryan Fluck, Director of Admiral Peary Area Vocational-Technical School; Dr. Edward H. Lareau, Director of the Research Coordinating Unit; Donna Rupert, Jack Jahoda, Mary Kantor, Irene Van Tassel, and Dick Lommock, Research Coordinators for the Career Education Project. We would like to express our appreciation to them for their professional assistance and their personal friendship during this year.

Due to the reduced funding for the second year of the project, which occurred because of reduced funding throughout the state of Pennsylvania, the amount of money to be expended for evaluation for the second year almost mandates the utilization of independent third-party evaluators located near the project site in Pennsylvania. For this reason, ESI will not serve as third-party evaluators for the second year of the career education project. ESI regrets that reduced funding has made this necessary. We would have preferred to follow the project through the second and third years, building on the observations and data base obtained during the first year. However, we are certain the project director will be able to identify competent third-party evaluators who will carry forward with the design and scope of evaluation begun during the first year.

CHAPTER VI

Conclusions, Implications and Recommendations

A. Process, Procedures, and Activities

1. Elementary Component

a. Conclusions

A "reality bound" program of Career Awareness has been developed that provides to elementary students and their teachers the opportunities to observe many of the actual materials and equipment utilized in the world of work.

b. Discussion

These opportunities can occur either in the form of field trips by the students to the AVTS, the comprehensive high school, or into the community in general, or in the form of visits to the classroom by resource persons from the community, including students or instructors from the AVTS or comprehensive high school. In support of these supplementary activities to curriculum content, a complete set of objectives, procedures, guidelines, and instructions for developing curriculum units in Career Education has been developed and disseminated to classroom teachers. Career Resource Centers have been established, primarily for teacher use, in support of Career Awareness activities.

Lines of communication and procedures have been identified and developed among the elementary, middle and high schools, the AVTS, and the community so that "field trip" type activities can be continued within the existing school organizational structure without the continuing assistance of project personnel.

Through a combination of teacher workshops, in-service activities and project staff assistance, teachers were oriented to the Career Education concept and several learning activity curriculum packets were developed locally for classroom use.

c. Recommendations

- Curriculum development with a shift in emphasis to Career Education should be systematically continued with small manageable groups of teachers in the form of workshops or released time meetings,
- The appropriate resources should be provided and/or made available to enhance the infusion of Career Education curriculum units into classroom instruction. These resources include CRC's and other learning stations within the school, as well as those available in or from the community, and
- Whenever out of classroom activities are utilized, they should be warranted by curriculum content, be well planned, and include both preparation and follow up activities.

2. Middle School Component

a. Conclusion

A "reality bound" program of Career Education has been developed that provides to middle school students and their teachers the opportunities to:

- participate in an exploratory sense with actual "hands on" experiences, and
- acquire sufficient information and experience to choose a general direction for pursuing a career of their choice.

b. Discussion

These opportunities occur in several forms, as follows:

- Field trips to the AVTS, the comprehensive high school or into the community in general,
- Visits to the classroom by resource persons from the community, including students from the AVTS or comprehensive high school,

- Use of the Career Resource Center (CRC), which was developed to be more student oriented than the elementary CRC, and

- Participation in club activities.

In support of these supplementary activities to curriculum content, a complete set of objectives, procedures, guidelines, and instructions for developing curriculum units in Career Education has been developed and disseminated to classroom teachers. Lines of communication and procedures have been identified and developed among the elementary, middle school and high school, the AVTS and the community in general, so that "field trip" type activities can be continued within existing school organizational structure without the continuing assistance of project personnel.

Through a combination of teachers workshops, in-service activities, and project staff assistance, teachers were oriented to the Career Education concept and several learning activity curriculum packets were developed locally for classroom use.

c. Recommendations

- Curriculum development with a shift in emphasis to Career Education should be systematically continued with small manageable groups of teachers in the form of workshops or released time meetings,

- The appropriate resources should be provided and/or made available both to the teacher and the individual student, to enhance the infusion of Career Education Curriculum Units into classrooms instruction. These resources include CRC's and other learning stations within the school as well as those available in or from the community, and

- Whenever out of classroom activities are utilized, they should be warranted by curriculum content, be well planned, be keyed to the individual student's interest, aptitude, and abilities, and include both preparation and follow up activities.

3. Secondary Level Component

a. Conclusions

The Career Experience Program for 9th graders has been successfully developed and implemented by project personnel certified in counseling, and

Segments of several Career Preparation programs have been explored and the goal of integrating both home school and AVTS curricula in grades 9-12 to provide occupational preparation for a variety of occupational areas commensurate with the student's interest and ability has only been partially met.

b. Discussion

Activities in grades 10-12 occurred on an individual or small group basis with students and teachers volunteering to participate in Career Education activities.

Career Resource Centers were established too late in the school year to have any appreciable affect on Career Education activities.

Through a combination of teachers workshops, in-service activities and project staff assistance, a few sets of curriculum materials were developed for student use.

c. Recommendations

- Curriculum development with a shift in emphasis to Career Education should be encouraged and systematically pursued with small manageable groups of teachers in the form of workshops or released time meetings,
- The appropriate resource should be provided and/or made available both to the teacher and to the individual student, to enhance the infusion of Career Education Curriculum Units into classroom instruction. These resources include CRC's and other learning stations within the school, as well as those available in or from the community,

- Whenever out of classroom activities are utilized, they should be warranted by curriculum content, be well planned, be keyed to the individual student's interest, aptitude, and ability, and include both preparation and follow up activities, and

- The Career Experience Program as developed with ninth grade students, should be continued as an integral part of a student's program and be coordinated by personnel in pupil services and counseling.

4. Other Support Activities

a. Conclusions

The majority of activities in the area of Career Guidance and Counseling have been developed and implemented by project personnel,

No significant Career Preparation activities have been successfully concluded with the post secondary component, grades 13 and 14,

A placement counselor and two cooperative education instructors hired by the AVTS have been oriented to the Career Education concept,

Parents have been successfully involved in Career Education activities at the elementary grade level, and

The initial stages of test instrument development for Career Education objectives in terms of student and teacher outcomes have been successfully concluded and documented.

b. Discussion

The project staff have worked with the philosophy that Career Guidance and Counseling activities are an integral part of classroom activities at all grade levels. The absence of counselors in the elementary and middle schools has made the infusion of this concept more difficult than it should be.

Because adult evening school at the AVTS was in its first year of operation during this project year, it was considered inappropriate to work with these students in Career Education activities.

Although cooperative education and placement are usually two operational functions of an AVTS, the Career Education project staff have had input into these two areas by working closely with the professional personnel involved.

Parental involvement decreased with the moratorium on field trips.

Test instrument development was carried as far as it could, given the 46% cut in funding for the second and third project years. The data reported are empirical and descriptive, and in some cases statistical analyses are incomplete. The problem of test development was further compounded by the apparently different testing populations encountered for both teacher and student outcomes.

c. Recommendations

. School districts considering the implementation of Career Education activities should employ the appropriate guidance and counseling personnel,

. A systematic set of plans and procedures should be developed for incorporating Career Education in post secondary education,

. Career Education staff and school district personnel should continue to work in close cooperation,

. Parents and other community persons and organizations should become more involved in Career Education, and

. Additional test instrument development is necessary for Career Education objectives.

B. Student Outcomes

1. Elementary Component

a. Conclusions

As measured by the ECAQ, there are significant differences on pre test data among the groups classified either "field trip/non field trip" or "public/private", in general,

As measured by the ECAQ, the students participating in Career Education activities score lower than students not participating, in general,

As measured by the ECAQ, all students improved their awareness and attitudes towards jobs, in general,

As measured by the ECAQ, the students score higher in the cognitive domain with increasing grade level, in general, and

As measured by the ECAQ, the students score higher in the affective domain with decreasing grade level, in general.

b. Discussion

In the limited time of less than one school year, students participating in the Career Education project activities could have received too much specialized information which might have resulted in some confusion as they responded to the ECAQ. More occupational options were made available to these students, thus they could have become less sure of their responses.

An overall increase in job awareness and students attitudes concerning jobs was evident. Affective awareness as well as cognitive awareness was also increased. Much of this increased awareness might be attributed to specific objectives such as knowledge of skills needed by a worker to complete a specific task and the student's reaction and/or feeling concerning the task completed.

Inspection by cross referencing the objectives in the original proposal, the evaluation design and the test items in the ECAQ seem to indicate less relationship among these three items than had been thought at the beginning of the school year. As a result, it appears that specific objectives which were taught throughout the school year were not measured and specific objectives which were not taught, were measured by the ECAQ.

c. Recommendations

- Elementary counselors are necessary to work with faculty and administration in developing the affective component of Career Education for the classroom,
- Test instruments which have both content validity and reliability should be developed to measure Career Education objectives, and
- Because the Career Education concept is dealing with a long range problem, any Career Education program should maintain continuity from year to year for a minimum of 3 to 5 years in order for measurable effects to occur.

2. Middle School Component

a. Conclusions

As measured by the Career Maturity Inventory (CMI), all student groups at all grade levels, score above the national average, with few exceptions,

As measured by the CMI, students participating in Career Education activities score lower than students not participating, in general,

As measured by the CMI, students in the participating groups have greater group variance (standard deviation) than non participating students, in general, and

As measured by the CMI, all students groups score higher on sub tests #2, #4, #5, and #6, than on #1 and #3, in general.

b. Discussion

In the limited time of less than one school year, students participating in the Career

Education project activities could have received too much specialized information which might have resulted in some confusion as they responded to the CMI.

Inspection by cross referencing the objectives in the original proposal, the evaluation design and the test item in the CMI seems to indicate less relationship among these three items than had been thought at the beginning of the school year. As a result, it appears that specific objectives which were taught throughout the school year were not measured and specific objectives which were not taught, were measured by the CMI. Specifically, sub tests #2, #4, #5 and #6 relate more closely to product objectives than do sub tests #1 and #3.

c. Recommendations

- Middle school counselors are necessary to work with faculty and administration in developing the affective component of Career Education for the classroom,
- Test instruments which have both content validity and reliability should be developed to measure Career Education objectives, and
- Because the Career Education concept is dealing with a long range problem, any Career Education program should maintain continuity from year to year for a minimum of 3 to 5 years in order for measurable effects to occur.

3. Secondary Level Component

a. Conclusions

As measured by the CMI and the CDQ, there are no significant differences between students participating or not participating in Career Education activities.

As measured by the CMI and CDQ, as with the elementary and middle school students, group variance is greater for the groups participating in Career Education activities, with the greatest differences occurring at the ninth grade.

As determined by the percentages of 9th grade students applying for participation in the Career Experience Program actually participating with the program, and applying for admission to the AVTS, the Career Experience Program is a viable method for meeting many of the informational and experiential needs of those students.

As determined by the rating scales completed by the participating 9th graders, the AVTS instructors, and the participating AVTS students, the Career Experience Program is a highly rated activity related to Career Education.

b. Discussion

The limited time of less than one school year and the isolated small groups participating in Career Education activities probably were not sufficient for measurable differences to occur between student groups.

Special concern for the group of students (18%) who completed application for the 9th grade program but did not participate seems to be needed in the future. Both grades and interests other than those at the AVTS were often cited as reasons for non participation for this group of eighteen percent.

Although the 9th grade program turned out to be essentially a pre vo-tech project for 46% of the participants, it served additional informational and experiential needs of 54% of the other students.

The Career Experience Program might be extended to include other grade levels, depending on the needs of the individual student. Career Experience opportunities were available and implemented only at the AVTS during the first project year.

As students from the other sending schools participate during the second year of the project, community and high school involvement will be necessary with the Career Experience Program to alleviate any undue burden on the AVTS.

c. Recommendations

- A more systematic approach to student participation in Career Education activities should be planned for the second year of the project,
- The Career Experience Program for 9th grade should be expanded to serve all school districts supporting the AVTS,
- The Career Experience Program for 9th graders should become operational and project staff participation should be minimized, and
- A community component of the Career Experience Program should be instituted.

C. Teacher Outcomes

1. Elementary Component

a. Conclusions

As measured by the PTO, Factor 2, "Satisfaction with Teaching", the elementary teachers decrease slightly overall from pre to post test.

As measured by the PTO, Factor 6, "Curriculum Issues," the elementary teachers increase significantly overall from pre to post test.

b. Discussion

It would appear that the lower post test scores on Factor 2, including interaction effects, could be attributed, in part, to the salary negotiations and end of the year "let down". The increase in post test scores on Factor 6 might be attributed to the Career Education Curriculum concepts. Neither factor is as closely related to project objectives as was originally thought.

c. Recommendations

- A test instrument with higher content validity for project objectives should be used for measuring teacher outcomes.

- More time should be provided for classroom teachers to develop their own classroom curriculum materials.

2. Middle School Component

a. Conclusions

As measured by the PTO, Factor 2, "Satisfaction with Teaching," the middle school teachers decrease significantly overall from pre to post test.

As measured by the PTO, Factor 6, "Curriculum Issues," the middle school teachers increase significantly overall from pre to post test.

b. Discussion

It would appear that the lower post test scores on Factor 2, including interaction effects, could be attributed, in part, to the salary negotiations and end of the year "let down". The increase in post test scores on Factor 6 might be attributed to the Career Education Curriculum concepts. Neither factor is as closely related to project objectives as was originally thought.

c. Recommendations

- A test instrument with higher content validity for project objectives should be used for measuring teacher outcomes.
- More time should be provided for classroom teachers to develop their own classroom curriculum materials.

3. Secondary Component

a. Conclusions

As measured by the PTO, Factor 2, "Satisfaction with Teaching," the secondary school teachers decrease dramatically overall from pre to post test.

As measured by the PTO, Factor 6, "Curriculum Issues", the secondary school teachers have a slight increase overall from pre to post test.

b. Discussions

It would appear that the lower post test scores on Factor 2, including interaction effects, could be attributed, in part, to the salary negotiations and end of the year "let down". The increase in post test scores on Factor 6 might be attributed to the Career Education Curriculum concepts. Neither factor is as closely related to project objectives as was originally thought.

Also, participation in Career Education activities at the secondary level was much less than in the elementary and middle school components.

c. Recommendations

- A test instrument with higher content validity for project objectives should be used for measuring teacher outcomes,
- More time should be provided for classroom teachers to develop their own classroom curriculum materials, and
- Project staff should spend more time with secondary teachers in developing Career Education curriculum approaches during the second year of the project.